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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

JANUARY, 1968

VOLUME 65, NUMBER 1

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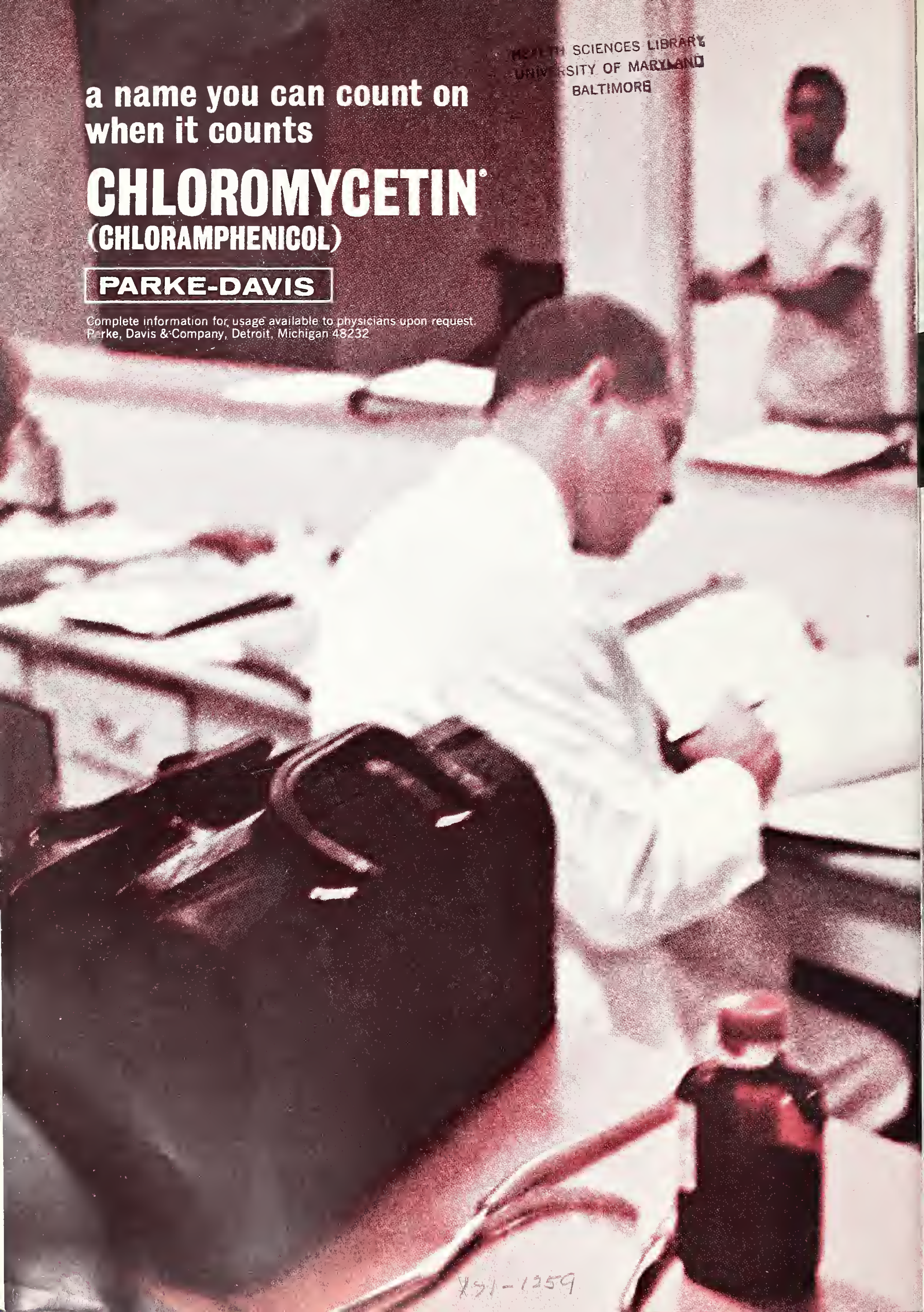

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Missouri Medicine

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Dr. Rouse Urges 'Positive Leadership' At AMA Clinical Convention

The need for "positive leadership" and "visible action" by the medical profession and all other members of the health team were emphasized to the House of Delegates by Milford O. Rouse, M.D., president of the American Medical Association at the 21st AMA Clinical Convention held on Nov. 26-29, 1967, in Houston. He declared that "our future depends on the preservation and strengthening of freedom for all people of our nation."

Doctor Rouse, who said he is among those who "fear that freedom is in danger," stated that danger does not come substantially from the few persons engaged actively in trying to undermine it, but rather from the lack of activity by the millions of citizens whose efforts are needed if freedom is to be preserved.

In regard to specific, current problems—the cost of health care and the growing need for more effective cooperation among health care professionals and sub-professionals—Doctor Rouse said, "I believe sincerely that we have reached a point . . . when we can no longer just cling to all of the traditions of our distinguished past. I believe the time has come for orderly, planned, meaningful change—not in the fundamentals of ethics or devotion to excellence, but in the more material features of efficiency, cost and methods of delivery" of health care. He added, "If we should fail to recognize the present as an opportunity for positive action . . . I believe we would fail not only ourselves, but the people of this country, more and more of whom need and want more and more of the services we are uniquely able to render."

MSMA was officially represented at the Convention by AMA Delegates Stanley S. Peterson, J. Loren Washburn, Arthur W. Neilson and Richard H. Kiene: Alternate Delegates James C. Sisk, Thompson E. Potter, Robert Kelley and Hugh E. Stephenson, Jr.; President Hector W. Benoit, Jr.; President-Elect David N. Kerr; Council Chairman Doyle C. McCraw; and Immediate Past-President Byron M. Stuart. Doctor Peterson served on Reference Committee "G."

Blaine Z. Hibbard of Kansas City, Chairman of the MSMA Committee on Utilization Review, attended a one-day Conference on the "Utilization Review, Problems and Promise," which was sponsored by the AMA on November 25.

Dr. Ralph R. Hall of Kansas City and William C. Allen of Columbia, chairman and member of the MSMA Committee on Medical Education, represented MSMA at a meeting called by the AMA Council on Medical Education on November 25.

Out of 242 Delegates, 238 (98.3%) attended the final two sessions of the meeting which dealt with 96 items of business. Fifty-seven resolutions came from state medical societies and individual physicians. Of the 96 items, the House adopted 43 without amendment; amended and adopted 22; referred 21, absorbed four into other adopted items; and rejected six.

Medical Education

Several actions were taken relating to medical education. One was adoption of the Board of Trustees' summary of the Report of the Commission on Research. Fifteen recommendations were contained in the Commission report, two of which were seen as particularly significant:

Recommendation #12 encouraged research in the delivery of health care, "provided it is conducted under proper auspices and in accordance with sound research design and methodology." The House adopted it with the understanding that such support "should not be interpreted to imply any criticism of the present studies of delivery of health care." Present efforts are productive, but the medical profession "should not hesitate to make known its interest in continued studies to improve the methods and quality of health care delivery."

Recommendation #13 was addressed to correcting the imbalance between biomedical research and education caused by the "heavy but desirable federal support of research." It stated that "there should be allotted a greatly increased amount for operational expenses of medical schools, to be matched by those schools through private or local governmental sources."

Again, the House concurred, stressing the fact that its approval of the recommendation changes the policy of the AMA with respect to federal support for medical education. The change results in "an honest recognition that federal financial support is now accepted by the

American medical schools." However, in adopting the recommendation, the House "emphatically urges that a matching formula be used" to "encourage medical schools to retain their independence."

Health Manpower

A report was adopted on the "Report of the National Advisory Commission on Health Manpower," which was submitted to President Johnson on November 20.

The report was necessarily brief, since there had not been time to study and evaluate the Commission report in any depth, but it pointed out that the Commission's approach to health care problems indicated recognition of the need for orderly procedures rather than harmful "crash" programs. The emphasis in most of the Commission report is to center responsibility on the professional groups best able to evaluate and plan in health areas, rather than on government and non-professionals.

The House adopted the preliminary report; voted to enlarge the AMA Committee on Health Manpower by four members to permit more careful and complete study in this area; and noted that copies of the complete Commission report will be sent to all Delegates and Alternates, requesting them to submit their comments to their constituent associations as soon as possible.

The House approved replacing the present AMA Commission to Coordinate the Relationships of Medicine With Allied Health Professions and Services with a new council of the Board of Trustees to be known as the Council on Allied Health Professions; and directed the Association to seek establishment of a medically oriented federal Commission on Health Resources and Medical Manpower to assure properly balanced distribution of health personnel among government agencies, the armed forces and the civilian population.

Health Care

The House adopted a number of reports and resolutions relating to health care from the standpoint of the community and the individual patient.

One emphasizes that standards of medical care are set at the local level and calls attention to disturbing trends pointing to the possible establishment of medical care standards on a national basis.

Another commits the AMA to leadership in informing the public, the profession and other elements of the health care field as to practical means of moderating health care costs, the value of voluntary health insurance, expanding the medical manpower supply and improving the health care of the American people.

With respect to comprehensive planning of health facilities and services, the House urged state and local medical societies to emphasize a variety of activities to be undertaken in the area of over-all planning for governmental and private programs of health care, including "Continued effort by the medical profession to improve federal legislation in this area and to emphasize the importance of local control."

The House reaffirmed that the procurement, processing, distribution or use of human blood and other human tissue is a medical service and is not the selling of a commodity. The Board of Trustees and the state associations were urged to support legislative action at federal and state levels to implement this concept.

Medicare and Medicaid

In regard to medicare, the House reaffirmed its support for direct billing under the federal program and adopted a resolution regarding the collection and public dissemination of figures on the administrative costs of medicare.

The House resolved that the AMA continue its efforts to provide for the implementation of Title XIX in a manner which recognizes "the physicians' right to bill directly all patients, including Title XIX patients, and allows the physician or his patient to be reimbursed in his usual, customary and reasonable fee for his professional services"; and that the Association actively seek changes in the law that will secure "equal and simultaneous application to all jurisdictions."

Hospitals

Because both medicare and medicaid provide payment for medical care rendered to patients by residents, the House resolved that the Association should study the problem and develop guidelines that are acceptable to supervising physicians, teaching institutions and government agencies involved in the payment process.

Other Legislative Matters

A resolution urging continuing opposition to S-2299, the Long drug bill, and a report detailing the current status of HR-12080, the Social Security Amendments of 1967, were adopted.

The House also adopted recommendations

that the AMA arrange a meeting of state medical association representatives to plan regional conferences of physicians to discuss matters of special interest to state legislators; and that state associations invite key lawmakers to attend AMA conferences.

Also approved was a resolution that state associations establish active legislative task forces at the congressional district level to maintain an effective working relationship with congressmen.

Support for AMPAC was reaffirmed in a resolution that requested the Board of Trustees to seek additional ways of helping AMPAC enlarge its activities and its assistance to state medical political action committees.

AMA Objectives

The House adopted a statement of 11 purposes and responsibilities for the AMA, designed to define more clearly the over-all purpose as written in the Constitution: "To promote the science and art of medicine and the betterment of public health."

Further details of the 21st AMA Clinical Convention may be found in *The Journal of the American Medical Association* and *The AMA News*.

TB Symposium in St. Louis

A three-day symposium, "The Rational Therapy and Control of Tuberculosis," will be presented on Feb. 14-16 at the Gateway Hotel in St. Louis by the Schools of Medicine of St. Louis and Washington Universities and the St. Louis City Department of Health in cooperation with the United States Public Health Service, Tuberculosis Program.

Open to all physicians without charge, the symposium will encompass discussions of all phases of the diagnosis and treatment of TB by internationally-known and local physicians. Among topics to be presented are *The Natural History of TB, The Diagnosis of Pulmonary and Extra-pulmonary TB, Sputum Induction and Modern Bacteriological Techniques, The X-ray Differential Diagnosis of Pulmonary TB, The Treatment and Current Attitudes Toward Chemoprophylaxis for the Positive Skin Reactor.*

Program participants will include Drs. A. Holguin, Chief of the TB Program, National Communicable Disease Center; W. Stead, Professor of Medicine, Marquette University School of Medicine; J. Lattimer, Professor of Urology, Co-

(Continued on page 10)

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Dr. DeBakey To Speak At Missouri U.

Dr. DeBakey

Dr. Michael E. DeBakey, professor and chairman of the department of surgery at Baylor University College of Medicine, Houston, will present the second annual W. Alton Jones Lecture at the University of Missouri on January 17. A two-day Continuing Medical Education program on "Extra-Cardiac Vascular Diseases —Arterial and Venous," will be presented in conjunction with the lectureship.

Other distinguished surgeons who will be guest lecturers include Drs. William Fry, chief of the section of general surgery at the University of Michigan; William W. Coon, also a professor of surgery at Michigan; Richard D. Sautter, surgeon at Marshfield (Wisc.) Clinic; and James A. DeWeese, associate professor of surgery at the University of Rochester and a brother of Dr. Marion S. DeWeese, chairman of the department of surgery at Missouri's School of Medicine and occupant of the W. Alton Jones Chair for a Distinguished Professor of Surgery.

Dr. DeBakey will present his lecture at 8 p.m. Wednesday, Jan. 17, in Memorial Union auditorium, following a dinner at the Union. His subject will be "Surgical Considerations of Aneurysms of the Thoracic Aorta."

The two-day program on extra-cardiac vascular diseases will open Wednesday morning at the Medical Center auditorium with a welcome from Dr. William D. Mayer, dean of the School of Medicine. Dr. Marion DeWeese will preside at the opening session, and Dr. Hugh Stephenson, professor of surgery at MU, will preside at the afternoon program when Dr. J. A. DeWeese and Dr. Fry will be among the speakers.

Thursday's session will include addresses by Drs. Coon, Sautter, J. A. DeWeese and Fry. Dr. James Mackenzie and Dr. Hilario Anido of MU's department of surgery will preside.

Other members of the MU faculty on the two-day program include Dr. Robert W. Allem, assistant professor of physical medicine and rehabilitation; Dr. Ford Keitzer, assistant professor of general surgery; Dr. Jack M. Martt, professor of medicine; Dr. Frank L. Mitchell, assistant professor of general surgery; Dr. Carl T. Rinker, instructor in radiology; Dr. Gilbert Ross, associate professor of surgery (urology); Dr. Arch W. Templeton, associate professor and chairman of radiology; Dr. Lester E. Wolcott, chairman of community health and medical practice; and Dr. Paul B. Wollschlaeger, associate professor of radiology.

Practicing physicians who attend the program are eligible to receive 11 hours of prescribed credit by the American Academy of General Practice. There is no fee for the course sponsored by the University of Missouri School of Medicine and the Extension Division, with the cooperation of the Missouri Regional Medical Program.

TB Symposium (Cont'd)

lumbia University College of Physicians and Surgeons; G. Middlebrook, W. Lester and T. Moulding, National Jewish Hospital; W. Banton, Chief of the TB Program, City of St. Louis; G. Kubica and L. Edwards, Tuberculosis Program, N.C.D.C.; D. Carr, Mayo Clinic; J. Mendenhall, Veterans Administration, Wisconsin; N. D'Esopo, Veterans Administration, Connecticut; W. Davey, Professor of Medicine, Michigan University School of Medicine; Florence MacInnis, Director of TB Control, Kansas City; K. Pfuetze, Hinsdale, Illinois; and R. Corpe, Battey State Hospital.

Attendance at the TB symposium will be accepted for course credit by the American Academy of General Practice.

NILS Y. WESSELL, ***New York***
President of the
Institute for Educational Development

The Role of Medical Schools Within the Framework of Higher Education

Special Feature

The following is a transcript of the address Mr. Wessell delivered at the Norfolk Area Medical Center Authority Conference at the time the Authority was contemplating a new medical school. A past president of Tufts University, he has presented an excellent documentary on the trials and tribulations of establishing new medical schools and deals directly with the whole problem of new professional educational programs. The Editors believe Mr. Wessell's thoughts are worthy of wide dissemination and will contribute to greater understanding of the problems of medical education and establishing new schools.

MAY I begin my remarks by reminding you of the bias I bring to the subject at hand. It is the bias of the university president not himself trained in medicine, but who has been exposed in a variety of ways to the problems of medical education and the relationships between medical schools and universities. As you might expect, my main thesis is that medicine is and must continue to be a university discipline.

I divide my comments into three parts: philosophical considerations, philosophical-practical considerations and practical considerations.

When I refer to considerations that are philosophical, I realize I am using the adjective rather loosely and am reminded of how one of my colleagues at Tufts University always responded when I said that I was being "philosophical" about a particular matter. He would say, "You mean you don't give a damn." May I assure you this is not the sense in which I used the word today. I mean to suggest that there are reasons having to do with educational philosophy which clearly point to the conclusion that medicine should be taught in the university setting.

I know I will sound pedantic when I remind you that the primary mission of the university is to transmit knowledge, to add to the sum total of knowledge and to achieve these ends at a time when the advance of knowledge can be described as an explosion and the state of the world completely uncertain. Barnaby Keeney, former president of Brown University, pointed out that in less than half a century we have gone from the steel age to the air age to the nuclear age to the space age. In the previous history of man, such change would have covered centuries, not a fraction of a century. By being identified with the university and its mission, the viable and vital medical school subscribes, as it should, to the standards, ideals and commitments characteristic of the university.

In the teaching of students, the process by which we *transmit* knowledge, we can no longer be secure and confident with respect to the world these students will enter when they leave the university and start their careers. We must prepare them for uncertainty and change. Fifty years ago, we could tell with a high degree of accuracy what would be demanded of our students ten, 20 and 30 years after they left college, whether we trained them as engineers, physicists, physicians or teachers of Latin. Twenty-five years ago, we began to lose our confidence in such predictions. Today, we know only that we cannot predict.

This fast-changing world makes imperative the close identification of the medical school with the university, as I will now attempt to document. The university's strength lies in its broad commitment to a large number of intellectual disciplines and in its concern for cultural synthesis, for the unity of knowledge whether promoted by scholarship, discovery or invention. This emphasis and this breadth are important in preventing the modern professional man from becoming the "new barbarian" whom Ortega describes as "more learned than ever before but at the same time more uncultured—the engineer, the physician, the lawyer, the scientist."

Some new scientific specialty yet unborn may hold great promise for medicine and it may well be conceived and nurtured in a discipline not now part of medical school curricula. Or the promise may be found in less dramatic developments such as those in the humanities and the social sciences. The university has concern for all disciplines, moves forward on all intellectual fronts and weighs the promise of new knowledge by ends that may at first have no seeming relevance to the practice of a profession. To be sure, the medical school which is not part of a university could in time change its program to embrace such new developments, but the lag would be significant and great enough to keep such a medical school from being numbered among medical schools of the front rank.

I find it useful to represent advancing knowledge as an expanding circle, the perimeter of the circle being the contact with the unknown. As the circle grows with new knowledge, so does the extent of our contact with the unknown. This analogy, of course, breaks down if we assume that the circle expands in regular fashion, uniformly in each of its quadrants. In spite of this shortcoming, the figure of speech illustrates the point that we do not know for sure were most of the promise for any professional field lies. The university, being concerned with the whole circle of knowledge, can guarantee that change will not be bound by preconception and previous custom. Such breadth of concern and such flexibility are difficult, indeed, for specialized educational institutions to achieve, for economic reasons if not for philosophical reasons. The average medical school cannot develop for itself programs of the quality a university can in those areas seeming to have no immediate concern for the practice of medicine. The university goes beyond such immediate concerns and in the process acquires and extends knowledge which, in due course, does become of immediate concern to the practice of the profession.

One of the chief hallmarks of the university is represented by what Howard Lee Nostrand calls "Western man's determination to live according to his intellect. "This is the first article of faith, that man's intelligence properly trained and disciplined can be relied upon to make progress toward and to achieve that which is good. The good which intellect serves includes the moral, the economic and the physical. The university's commitment to intellect does not mean that emotion, sentiment and aesthetic experience are of no significance when time will be eliminated by sheer reason. On the contrary, it means that through intellect, emotion, sentiment and aesthetics can be enriched. Intellect requires passion for its fulfillment. I believe that this is what Whitehead had in mind when he said "the justification for a university is that it preserves the connection between knowledge and the zest for life, by inviting the young and the old in the imaginative consideration of learning."

This determination to live by intellect implies the future reference which clearly characterizes the university and which has been aptly stated by Lester Evans when he speaks of the university as the one social institution specifically charged with anticipating the future. This responsibility for the future obviously demands the effective use of intellectual skills represented by all of the disciplines that make up a university. This statement is not tantamount to saying that man can live by the bread of intellect alone. Neither can man live by indulging only in the activities which characterize the teacher and the student in the university.

The determination to live one's life according to his intellect is the difficult option, not the "easy option" of which Barbara Ward speaks in diagnosing our ills as a people; the difficult option which, however, in the long run provides the greater rewards and the more significant pleasures. The first hallmark of the university then is that it elects voluntarily as its taskmaster the sternest of all, the intellect.

Other hallmarks of the university derive simply by definition from this first, the commitment to intellect. Foremost among them is the principle of free inquiry in the search for truth. Although the university in its individual schools may train students for medicine, law, the ministry or business, its overriding concern does not have and is not subject to the restrictions of profession or vocation. The university apart from its individual schools and colleges has the complete kind of intellectual freedom which is one of its most important hallmarks. This freedom is also one of the best guarantees that tomorrow's physician will be better trained and educated than yesterday's.

Perhaps what I have been saying can be expressed in another and more meaningful way. It is that the university is concerned with the whole man. Granting that medical schools are increasingly stressing to their students the importance of the same emphasis in the practice of medicine, I would still maintain that the whole man represented by the university's concern is a "wholer" (not holier) man than that held up to students as the medical school ideal. Medical schools should have close ties with the broad intellectual community, close identification with it, and this is more likely to be achieved when they are part of the larger university.

And now, may I turn to what I referred to as philosophical-practical considerations. The hyphenated label should make plain that I am not sure how these considerations should be categorized. They seem to share both emphases, the philosophical and the practical.

The first of these is the conviction that the university with its long history of tradition, its commitment to the tenet of free inquiry and academic freedom, can protect medical education more successfully from the professional, political and social pressures which could result in the loss of this essential freedom. The academy rather than the guild is the safer home for the teaching of a profession. Dr. Eliot, president of Harvard University in the 1920's, made the same point when he stated that "—in a true university, the spirit of the teaching and of the study and preparation for all these varied professions is one and the same, viz., the spirit of modern science—candid, fearless, truth-seeking, searching for the facts regardless of the consequence."

Let me be quick to add that there are some proper pressures from which medical education should not be insulated, for example, those representing the health needs of the community. Both universities and medical schools must justify their existence, their objectives and the courses they follow in the realization of their objectives. They must be willing to submit to examination and criticism, and even suffer fools gladly, but there are fundamental principles which they must stoutly defend and with which they must make no compromise.

Another philosophical-practical consideration concerns the calibre of academic specialists which the medical school can recruit and retain in fields not considered at the present time central to the medical school curriculum. While the average medical school can develop its own departments of social science, for example, few medical schools can match the universities in the calibre and critical candor of staff recruited for such departments.

The modern medical school, that is, the good modern medical school is also a graduate school and a research organization. Programs leading to the Ph.D. in the basic sciences and research in the basic sciences are such an important part of medical education that it is impossible to conceive of a good medical school without them, yet these activities require the close scrutiny of colleagues in other disciplines whose first commitment is not to medicine or a particular profession. Equally important is active interchange between the teacher and researcher in the basic sciences and the teacher and researcher in clinical fields. This double accountability is most likely to be discharged effectively in the university setting. It illustrates how closely intertwined philosophical and practical considerations are in the conduct of the affairs of the medical school. This does not mean, however, that the university setting guarantees rapport between the basic sciences and other university disciplines in the one instance and between the basic sciences and clinical fields in the other instance. Such rapport is always difficult to achieve, but it becomes well nigh impossible when the medical educator is physically or functionally divorced from other university educators and when the basic scientist is similarly separated from the clinical scientist.

Finally, under the philosophical-practical rubric, I would mention the gain to the medical school by sharing in advances made in other parts of the university in the improvement of eductional methods. I recognize that there is promising new pedagogy being tried in some of our medical schools, but, traditionally, even less has been expected of the medical school faculty than other university faculties with respect to effective teaching and learning.

My third category of considerations I labelled practical. These are more difficult to handle for the simple reason that many of them argue against the university taking a medical school to its bosom, at least from the university's selfish point of view. (And there are universities with selfish motives!)

It also is true that there are medical schools affiliated with universities who prize the affiliation only because of the "cloak of respectibility" the affiliation provides, to use Dean Lippard's phrase. In his introduction to Abraham Flexner's report on medical schools 57 years ago, Henry S. Pritchett, then president of the Carnegie Foundation for the Advancement of Teaching, said, "A university has a mission greater than the formation of a large student body or the attainment of institutional completeness, namely, the duty of loyalty to the standards of common honesty, of intellectual sincerity, of scientific accuracy."

Admittedly, many of the important basic characteristics of the university can be achieved, at least in part, in a medical school which is not part of a university. I will grant, also, that there are some medical schools with close university affiliations which are less successful than independent medical schools in achieving the ideals I have described. I will not concede, however, that the full realization of these ideals is as likely of attainment in any setting other than that provided by the university.

For the university-medical school affiliation to amount to more than a statement in a catalogue, commitment and effort on the part of the university administration and the administration of the medical school are imperative. The university affiliation that is a matter only of the letter and not the spirit will not bestow upon the medical school the important characteristics to which I have alluded. Even with good rapport between the medical school and its parent, seemingly minor ills can be serious obstacles in fact. For example, physical separation making necessary the use of a car or public transportation to get between the main university campus and the medical school, or parking problems at either location, can be frustrating or can be exaggerated out of proportion so that the telephone and the post office become the ordinary means of communication in place of face-to-face involvement.

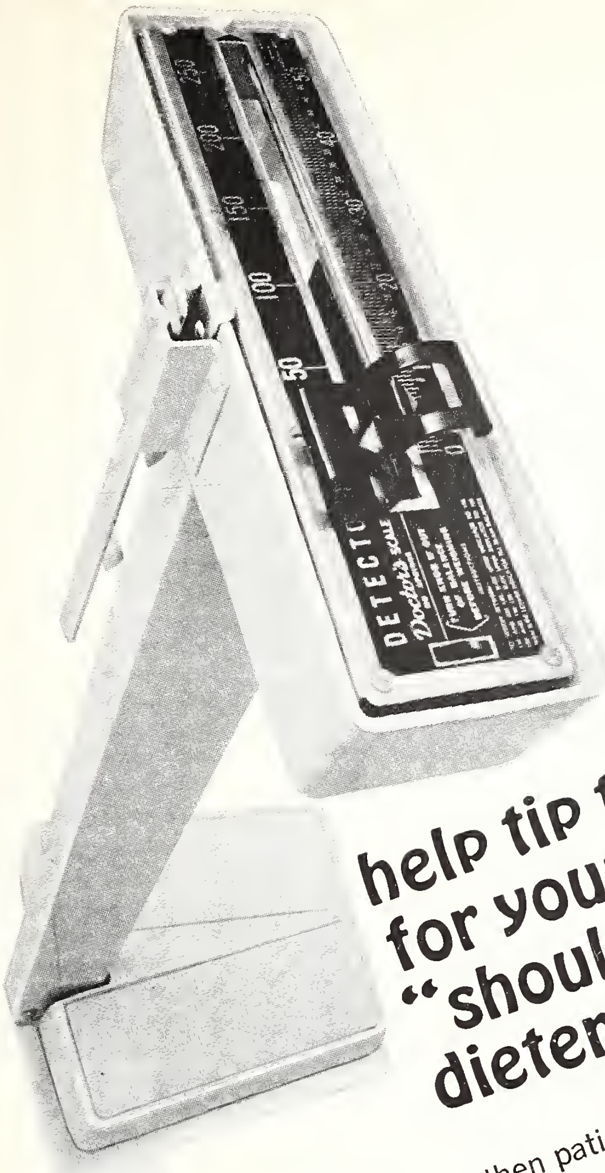
Even with close physical proximity or in the absence of geographic barriers, two distinct classes of citizenship can develop between the respective faculties and researchers in the medical school and in the rest of the university. Substantial differences in salary schedules, usually in favor of the medical school, can create such unhappy distinctions. Even though the differential often can be explained on the basis of the fact that the medical school faculty member is on an 11-month-year and the other faculty on a nine-month-year, sometimes this does not alter the situation.

It may be inevitable that salary differences in favor of medical school faculties will always exist. More than this, they may be justified. Yet a great deal of effort and a great deal of diplomacy are involved in preventing such a situation from defeating the reasons the medical school is part of the university.

Arrangements aimed at minimizing distinctions and rivalries and promoting academic exchange and involvement have met with varying degrees of success, the judgment often depending upon the person doing the judging. For example, there are instances of university-wide departments which include the specific subject areas making up the medical school. Under such an arrangement, a university-wide department of biological sciences is responsible for teaching undergraduate freshmen introductory courses in biology and botany at the same time it is responsible for teaching advanced biological sciences to medical students. I believe it is possible, however, to have separate departments, say of physiology, in the division of arts and sciences and the medical school and still develop effective intellectual exchange between them.

The busy university president, responsible for a half dozen or a dozen or a couple dozen separate schools and colleges, can easily make the medical school a stepchild. He can do this by delegating all responsibility for it to a vice-president for medical affairs and meeting with the faculty of the medical school only once annually in June to preside at the voting of degrees. He can dismiss personal involvement in its affairs by the rationalization that he is not competent to discuss issues of curriculum, research and faculty advancement.

He also can keep the medical school at arm's length by insisting that it be completely self-sufficient financially in terms of balanced budgets, as well as in terms of fund-raising. By this process, he can deny to the medical school the very university resources whose availability is the



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reason the medical school is and should be part of the university.

Medical education is expensive, among the most expensive programs in higher education. The medical school can drain university resources which might well go to other fields. The existence of a medical school can, on the other hand, bring prestige to the university which, in turn, can be shown to be transmutable into support for non-medical programs of the university.

And the medical school can insulate itself from the rest of the university by its own scheming and design. The administration of the medical school can so crave a foolish independence of action and decision that it makes of itself the stepchild it claims it does not want to be. The medical dean who dismisses the involvement of the university president in the affairs of the medical school by brushing aside the competence the university president can bring to medical education is doing a disservice both to medicine and to education.

By design, I have not touched at all on another large question on the assumption that it is not intended to be a part of my assignment, that is, the relationship between the university and the medical school on the one hand and the hospitals in which clinical teaching is done on the other hand. Here, again, the goal of the university is critically important and naturally my bias is showing. With very little encouragement, I could discourse at great length on this subject. Let me state at this time only that this area must be investigated as thoroughly as any other, if not more so, in planning for the establishment of a new medical school.

In spite of these instances of difficulty and frustration or lack of success in making the medical school in fact a part of the university, I still subscribe most firmly to the thesis I stated at the outset, namely, that the better training of the physician of the future and the better care to be received by patients are more likely to be achieved when the medical school is a part of the university and not independent of it.

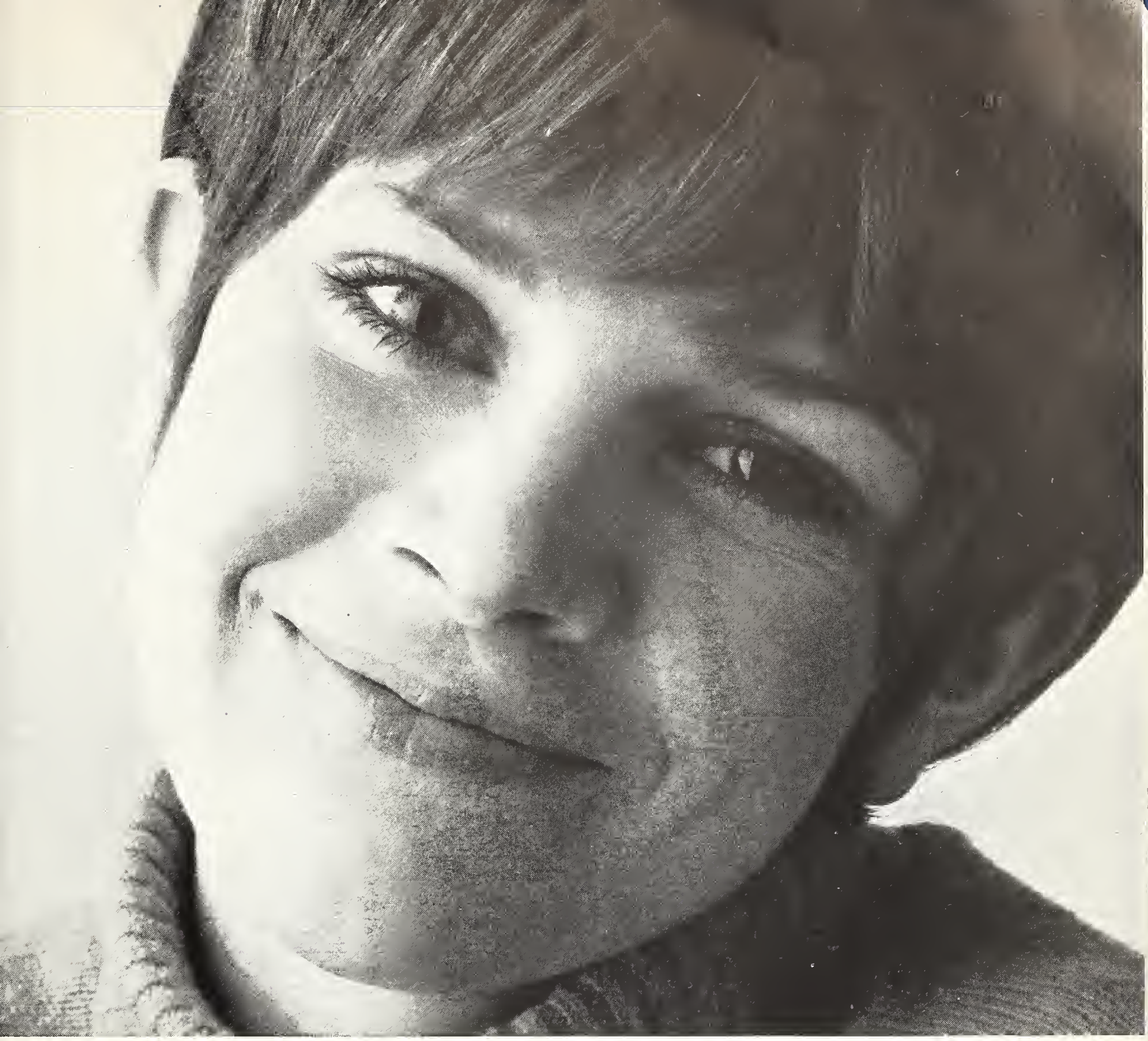
The kind of medical school and its university setting I have been describing are of course the ideal or, at least, the ideal by my insights. It is not expected that such can be created over night, given the best of circumstances and the widest of community support. It is more realistic to expect that a series of stages or phases will have to be followed leading to the ideal as the eventual goal. An important part of such a process of evolution is the development of cooperation and interdependence between existing educational and medical institutions in an area or region. Clearly, the trend in medical education is in this direction. Clearly, it should be encouraged, for it is in the public interest.

(Portions of this address have appeared previously in THE JOURNAL *of the* AMERICAN MEDICAL ASSOCIATION *and* THE JOURNAL *of* MEDICAL EDUCATION.—*The Editors)*

NEW DEPENDENTS MEDICAL CARE PROGRAM FORMS

New forms for reporting services rendered to dependents of United States armed services personnel have been sent to all Missouri physicians. The new form, which is numbered DA 1863-2 and dated June 1, 1967 replaces all older DA 1863-2 forms, which should be destroyed.

Effective January 1, 1968, medical and surgical benefits of the Civilian Health and Medical Program of the Uniformed Services (dependents and retired personnel program) will be paid on the basis of usual, customary and reasonable charges under a new contract recently negotiated with the government.



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Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
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Professional Group Held Taxable as Corporation

The Treasury Department's so-called *Kintner* regulations, restricting professional groups in obtaining the tax advantages of corporations, have been *declared invalid* by a federal trial court. The ruling, permitting an association of lawyers to be taxed as a corporation rather than as a partnership, is the first court decision on the validity of the regulations. The court added that this particular association, which was incorporated under the laws of Colorado, would qualify for taxation as a corporation even if the regulations were valid. Since the decision is applicable to physicians, as well as lawyers, the full text is included as an attachment with the October 13, 1967 issue of *The Citation* (Vol. 16, No. 1).

(Editors' Note—A copy of the decision is in the MSMA Headquarters office.)

Special AMA Conference On Abuse of Drugs

A two-day conference for physicians on the abuse of drugs by young people will be sponsored by the Council on Mental Health of the American Medical Association March 15-16 at the Drake Hotel in Chicago.

The program will include discussions of the causes of drug abuse, the treatment and rehabilitation of drug dependent persons, deterrents to drug abuse and latest research findings in the field. A highlight of the conference will be a panel presentation on medical management of those who abuse drugs and become dependent on them.

"Drug Abuse in the Now Generation" is the theme of the meeting which will be the 14th annual conference held by the Council for members of state medical society mental health committees and representatives of state mental health departments.

Physicians interested in attending may write to the Department of Mental Health, American Medical Association, 535 No. Dearborn St., Chicago, Ill. 60610 for complete program details and registration information. There is no registration fee.

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Preliminary Program

110th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 28-31, 1968**

Thursday, March 28

12:00 NOON Registration of Delegates.

2:30 PM House of Delegates Meeting, opening session.

4:30 PM Reference Committee meetings.

Friday, March 29

8:00 AM Registration.

9:00 AM *Government in Medicine.* (Sponsored by the MSMA Committee on Medical Economics.)

Moderator: Rae W. Froelich, M.D., Lebanon.

1. *Medicaid in Missouri,* Mr. Proctor Carter, Director, Division of Welfare, Jefferson City.
2. *The Cost Benefit Theory,* William Bryant, Ph.D., University of Missouri School of Medicine, Columbia.

9:00 AM *Program on Space Medicine* (To be announced).

10:30 AM Intermission to view exhibits.

11:00 AM *Continuation of Medical Economics Program* (Government in Medicine).

1. *The Practice of Medicine Today and Tomorrow,* Mr. Wayne Conwell, Professional Management Consultant, St. Louis.
2. *The Case for the Corporate Practice of Medicine,* Mr. William Boles, Attorney, St. Louis.

11:00 AM *Prevention of Rh Iso-Immunization by the Use of Anti D Antibodies,* Eugene G. Hamilton, St. Louis. (Sponsored by the MSMA Committee on Maternal Welfare.)

12:00 NOON Fifty-Year Club Luncheon.

Committee on Maternal Welfare Luncheon.

General Luncheon: *Computer Medicine,* Vernon E. Wilson, M.D., Executive Director for Health Affairs, University of Missouri, Columbia.

2:00 PM Program sponsored by the Missouri State Surgical Society.

Moderator: Howard E. Linville, M.D., Kansas City.

Panel Participants:

Oscar T. Clagett, M.D., Rochester, Minn.
(Other speakers to be announced.)

2:00 PM Program sponsored by the Missouri Chapter, American Academy of Pediatrics.

Moderator: C. Read Boles, M.D., Clayton.

(Panel Participants to be announced.)

2:00 PM *Do's and Don'ts in Establishing Your Community Hospital's Cardiovascular Care Unit.* (Sponsored by the Missouri Regional Medical Program and the Missouri Chapter, American College of Chest Physicians.)

Moderator: Glenn O. Turner, Springfield.

Panel Participants:

Cecil R. Auner, M.D., Springfield.
Loren E. Broaddus, M.D., Springfield.
J. William Cheek, M.D., Springfield.
Thomas E. Cochran, Jr., M.D., Springfield.
Oral B. Crawford, M.D., Springfield.
John J. McKinsey, M.D., Springfield.

Subject matter to be discussed includes:

A. *Feasibility.*
B. *Costs.*
C. *Financing.*
D. *Equipment Selection, Unit Size and Location.*
E. *Training Programs.*
F. *Limitations.*

3:30 PM Intermission to view exhibits.

4:00 PM House of Delegates, second session.

5:30 PM Missouri State Medical Foundation Annual Meeting.

6:00 PM Reference Committees.

Saturday, March 30

8:00 AM Registration.

9:00 AM *Management of the Failing Heart.* (Sponsored by the Missouri Heart Association.)
Moderator: Albert M. Estes, M.D., Cape Girardeau.
Panel Participants:
1. *Treatment of Right and Left Heart Failure,* Robert J. Adolph, M.D., Cincinnati, Ohio.
2. *Arrhythmias in Acute Myocardial Infarction,* Peter C. Gazes, M.D., Charleston, S. C.

9:00 AM *Medicine and Religion.* (Sponsored by the MSMA Committee on Medicine and Religion.)
Moderator: Rev. Paul B. McCleave, Director of the AMA Department of Medicine and Religion, Chicago, Illinois.
Panel Participants:
R. Paul Ferguson, M.D., Lake City, Iowa.
Loyal W. Combs, Jr., M.D., Lafayette, Indiana.
Rev. Thomas F. Zimmerman, D.D., Springfield.
Robert M. Myers, M.D., D.D., Kansas City.
Topics to be discussed:
A. *Alcoholism.*
B. *Drug Addiction and Drugs on the Campus.*
C. *Contraceptives and the Co-Ed.*

9:00 AM *Pediatric Ophthalmology.* (Sponsored by the Missouri Ophthalmological Society.)
Moderator: Stephen E. Bowen, Jr., M.D., St. Louis.
Congenital Cataracts and the Use of Contact Lenses in Children, Harry R. Brady, M.D., St. Louis.
Congenital Glaucoma, Alan E. Kolker, M.D., St. Louis.
Congenital Anomalies of the Eye, Carl H. Ide, M.D., Columbia.
Samuel T. Jones, M.D., Kansas City (Subject to be announced).

10:30 AM Intermission to view exhibits.

11:00 AM *Emergency Care and Transportation of Injured in Missouri.* (Sponsored by the Missouri State Committee on Trauma of the American College of Surgeons.)
Moderator: Franklin L. Mitchell, M.D., Columbia.
1. *How Good Is Ambulance Service in Missouri,* Majorie Dale, M.D., Columbia.
2. *The Ambulance—Minimal Versus Optimal Standards,* Marshall Conrad, M.D., St. Louis.
3. *The Ambulance Attendant—How Much Can Be Accomplished?,* Hugh E. Stephenson, Jr., M.D., Columbia.
4. *The Training of the Ambulance Attendant,* John L. Barnard, Jr., M.D., Kansas City.
Summation—Oscar Hampton, M.D., St. Louis.

11:00 AM *Management of the Anxious Patient.* (Sponsored by the Missouri Academy of Psychiatry.)
Moderator: Retus W. Osborn, III, M.D., Farmington.
1. *Psychotherapeutic Approach to the Management of the Anxious Patient,* Charles B. Wilkinson, M.D., Kansas City.
2. *Pharmacological Approach to the Management of the Anxious Patient,* Joseph W. Lamberti, M.D., Associate Professor of Psychiatry, University of Missouri.
3. *Management of the Anxious Patient by the Family Physician,* Douglas Goldman, M.D., Cincinnati, Ohio.

11:00 AM *The Office Practice of Internal Medicine.* (Sponsored by the Missouri Society of Internal Medicine.)
Moderator: John I. Matthews, M.D., Jefferson City.
Panel Participants:
Medical Costs to the Public, Dwight L. Wilbur, M.D., Chicago, Ill.
Employee Health Benefits as It Applies to Out-Patient Services, Frank M. Maple, M.D., Springfield.
Generic vs. Drug Labelling, William D. Perry, M.D., St. Louis.
Periodic Health Examination, Albert I. Decker, M.D., Kansas City.

12:30 PM Missouri University Alumni Luncheon.

12:30 PM General Luncheon, Dwight L. Wilbur, M.D., President-Elect, American Medical Association, Chicago, Illinois, Guest Speaker.

2:30 PM *Symposium on Lower Extremity Amputee.* (Sponsored by the Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine, Columbia.)
Moderator: Lester Wolcott, M.D., Columbia.
Panel Participants:
Comprehensive Management, Lester Wolcott, M.D., Columbia.
Geriatric Amputee, Victor C. Schell, M.D., Columbia.
Case Presentation
Panel: Victor C. Schell, M.D.
Robert W. Allen, M.D.
Raymond Hogue, Ph.D.
James Verhoff, C.P.
Daniel Haney, C.P.
Immediate Post-Surgical Fitting—Lecture and Demonstration.
Panel: Robert W. Allen, M.D.
James Verhoff, C.P.
Daniel Haney, C.P.

2:30 PM *Symposium on Complex Intraabdominal Problems.* (Sponsored by the Department of Surgery, Washington University School of Medicine, St. Louis.)
Moderator: Walter F. Ballinger, II, M.D., St. Louis.
Panel Participants:
1. *Management of Postgastrectomy Syndromes,* Walter F. Ballinger, II, M.D., St. Louis.
2. *Aorto Iliac Occlusive Disease,* Harvey R. Butcher, Jr., M.D., St. Louis.
3. *Severe Intraabdominal Trauma,* John A. Collins, M.D., St. Louis.

2:30 PM *Symposium on Radioactive Isotopes.* (Sponsored by the Department of Radiology of the St. Louis University School of Medicine, St. Louis.)
Moderator: Don C. Weir, M.D., St. Louis.
1. *Radioisotopes, Scintiphotos and Scans*—In Diagnosis, John L. Bircher, M.D., St. Louis.
2. *Paranasal Sinuses*—Roentgen Evaluation, James M. Martin, M.D., St. Louis.
3. *General Vascular Radiology,* Sumner Holtz, M.D., St. Louis.

4:00 PM Intermission to view exhibits.

7:15 PM Annual Banquet honoring Past Presidents of MSMA.
Guest Speaker: Bill Vaughan, Kansas City.
Social Hour for those attending the Banquet at 6:30 PM
Dancing until Midnight.

Sunday, March 31

7:30 AM House of Delegates Meeting, breakfast and final session.

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Notes of interest from Here . . . . and There

Kenneth Dean Serkes, M.D., has been named assistant to the chairman, division of surgery at Philadelphia's Albert Einstein Medical Center. He also is associate professor of surgery at the Temple University School of Medicine, with which the medical center is affiliated. Before joining the Einstein staff in July, 1967, Doctor Serkes served as assistant director of the department of surgery at The Jewish Hospital in St. Louis. He also was an instructor in surgery and then an assistant professor of surgery at the Washington University School of Medicine. The Medical Center has more than 700 physicians and dentists on its staff—some 220 of them assigned to the division of surgery.

Two new members to the state Cancer Commission and two reappointments have been announced by **Gov. Warren E. Hearnes. Dr. Charles Lockhart,** Springfield replaces the late **Dr. A. E. Spelman** of Smithville and **Dr. Carl J. Marienfeld,** Columbia, succeeds the late **Dr. John Modlin** of Columbia. Reappointed were **Dr. J. G. Probstein** of St. Louis and **William C. Whitlow** of Fulton. Mr. Whitlow, an attorney, is executive secretary of the commission and president of the Cancer Research Center in Columbia.

Dr. Andrew D. Spencer, St. Louis, has been appointed as a member of the State Board of Healing Arts by **Gov. Warren E. Hearnes.** He replaces **Dr. Raymond A. Ritter** of Cape Girardeau, whose term expired.

Dr. Carl H. Almond, Columbia, is in South Viet Nam for two months, serving the civilian population with the American Medical Association Volunteer Physicians for Viet Nam. Doctor Almond, who specializes in thoracic and cardiovascular surgery, is associate professor of surgery at the University of Missouri School of Medicine.

Dr. Emmett F. Hoctor, director of the out-patient clinic at State Hospital No. 4 in Farmington, was one of three Missourians to receive an award at the Governor's Conference on the Aging in Jefferson City. He was honored for his special efforts in behalf of senior citizens. He also is holder of the first statewide award made by the Missouri Mental Health Association for outstanding service to the mentally ill. Doctor Hoctor was superintendent of the Farmington State Hospital for 38 years before becoming out-patient clinical director in 1963.

Dr. John T. Crowe, Cape Girardeau, was one of nine persons to receive the coveted Pfizer Merit Award for "contributing time, effort and professional experience to the cause of national security" at the 16th Annual Conference of the U. S. Civil Defense Council in Miami Beach recently. Doctor Crowe, who is chairman of the MSMA Committee on Disaster Medicine, received the Civil Defense Distinguished Service Award from the State of Missouri in 1967. He is active in all phases of Disaster Planning in Missouri and presently is updating the Disaster Plan Book. He also is a Medical Instructor for Shelter Management Training Classes.

Dr. Carroll P. Hungate, Kansas City, was appointed surgeon of the U. S. Civil Defense Council for 1968 by newly-elect **President Arthur E. Burrell.—Dr. John H. Wells** was elected president of the newly-organized Meharry Medical College Alumni Chapter in Kansas City.—**Dr. Jack S. Sanders,** Jefferson City, president of the Missouri Heart Association, has announced that **Mrs. Joseph L. Gehrs,** Festus, has been named as a member of the Board of Directors of the American Heart Association.

The St. Charles Exchange Club has honored **Dr. Hubert C. Ritter** and his son, **Dr. Hubert A. Ritter,** for their accomplishments and recent awards. Dr. Hubert C. Ritter received the St. Charles Chamber of Commerce award for "Extraordinary Humanitarianism Service" and Dr. Hubert A. Ritter was elected president of the St. Louis Medical Society.

Continuing Education Coming Events

Jan. 16-19	**A Comprehensive View of Cardiovascular Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Jan. 17	**Part 1—Introduction to Nuclear Medicine** Postgraduate Symposium in Nuclear Medicine Mallinckrodt Institute of Radiology Washington University School of Medicine, St. Louis
Jan. 17-18	**Peripheral Vascular Disease** Continuing Education, M.U. School of Medicine Medical School, Columbia
Jan. 18-19	**Part 2—Progress in Nuclear Medicine** Postgraduate Symposium in Nuclear Medicine Mallinckrodt Institute of Radiology Washington University School of Medicine, St. Louis
Feb. 6-9	**A Comprehensive View of Pulmonary Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Feb. 7	**Office Pediatrics** Continuing Education, M.U. School of Medicine Medical Center, Columbia
March 5-8	**Oncology: A Curriculum in Cancer** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
March 6-7	**Coronary Heart Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia
March 14	**AMA Lecture in Clinical Nutrition** Lincoln University, Jefferson City
March 23-24	**Missouri Society of Anesthesiologists, Inc.** Annual Meeting, Kansas City

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Indications: Tofrānil is recommended for the treatment of depressive states of diverse psychopathology.

Contraindications: The concomitant use of Tofrānil and monoamine oxidase inhibiting (M.A.O.I.) compounds is contraindicated. Hyperpyretic crises or severe convulsive seizures may occur. Potentiation of adverse effects can be serious or even fatal. An interval of at least 7 days after M.A.O.I. therapy has been discontinued should be allowed before Tofrānil may be substituted. Initial Tofrānil dosage should be low, increases should be gradual, and the patient's progress should be carefully observed.

Warning: Clinical reports have suggested that there may be a risk of teratogenesis associated with the use of this compound during the first trimester of pregnancy. Unless, in the opinion of the prescribing physician, the potential benefits outweigh the possible risks, Tofrānil should not be used during the first trimester of pregnancy.

Cardiovascular complications, including myocardial infarction and arrhythmias, have occasionally occurred in susceptible individuals. Patients with cardiovascular disease should be given the drug only under careful observation and in low dosage.

Precautions: Since suicide is always a possibility in severely depressed patients and one which may persist until significant remission occurs, such patients should be carefully supervised during early treatment with Tofrānil. Some severely depressed patients may also require hospitalization and/or concomitant electroconvulsive therapy.

Because of its anticholinergic effect, caution should be observed in prescribing Tofrānil for patients with increased intraocular pressure.

In rare instances, transient cardiac arrhythmias have occurred in hyper thyroid patients and in patients receiving thyroid medication when Tofrānil was added to the regimen. Imipramine may block the pharmacologic activity of guanethidine anc other related adrenergic neuron-blocking agents.

The drug is not recommended at th present time in patients under 12 ye of age.

Adverse Reactions: Dryness of the mouth, tachycardia, constipation, d turbances of accommodation, swea ing, dizziness, weight gain, urinary frequency or retention, nausea and vomiting, peripheral neuritis, mild parkinson-like syndrome, tremors, rare cases of falling in elderly patients, confusional states (with suc symptoms as hallucinations and dis orientation), activation of psychosis schizophrenics and agitation (inclu

Volume 65, Number 1—January, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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JOHN F. TOWNSEND, M.D., *St. Louis and*
DONALD A. SENHAUSER, M.D., *Columbia*

Preleukemic Myelogenous Leukemia in the Elderly: The Value of Leukocyte Alkaline Phosphatase Determinations in the Diagnosis

Case Reports

The so-called "pre-leukemic" or "atypical" leukemic syndromes represent an increasingly well-recognized entity since the report of Block and his co-workers.[1] Nonetheless, the clinical and pathologic diagnosis often is difficult, and this is especially true when this hematologic disorder presents in the aged.

The relationship of leukocyte alkaline phosphatase activity to preleukemia and leukemia is well documented.[2-5] There is, however, a lack of such documentation of its prognostic significance in such disorders in patients of advanced age. This paper discusses the absence of leukocyte alkaline phosphatase activity in two cases of a myeloproliferative syndrome, best categorized as "preleukemia," which terminated fatally in elderly individuals without entering into an acute leukemic phase, either clinically or by the usual anatomic criteria.

Case # 1. The patient was an 82-year-old man who was first seen at the University of Missouri Medical Center approximately five months prior to death because of weakness and anemia. Physical examination failed to reveal palpable liver, spleen or lymph nodes. Hemoglobin was 6.5 gms %; hematocrit, 19%; white cell count, 15,300 per cu mm with a differential count of 2% myelocytes; 4% metamyelocytes; 83% neutrophils; 8% lymphocytes; 3% monocytes. Platelets were 36,000 per cu mm. A bone marrow examination revealed marked myeloid hyperplasia with a differential count of 1% blasts, 3% promyelocytes, 38% myelocytes, 30% metamyelocytes, 1.5% lymphocytes, 0.5% monocytes, 1% pronormoblasts, 1% basophilic normoblasts, 2% polychromatic normoblasts and 0.5% orthochromatic normoblasts. Leukocyte alkaline phosphatase (method of Kaplow)[6] was zero on two occasions. Because of the low platelet count and the other hematologic findings which were suggestive of preleukemia, the patient was started on prednisone therapy, 40 mgm daily. He was discharged and followed in the outpatient department until his second admission.

The second admission, some three weeks later, was for the purpose of supportive transfusion and repeat bone marrow examination. The hemoglobin was 7.5 gms %. The peripheral white count and differential were similar to the previous admission. The repeat bone marrow examination was essentially the same as before. The differential count was 1.5% blasts, 2.5% promyelocytes, 24% myelocytes, 29% metamyelocytes, 17% neutrophils, 1% basophils, 7.5% lymphocytes, 1% basophilic normoblasts, 12% polychomatic normoblasts and 3% orthochromatic normo-

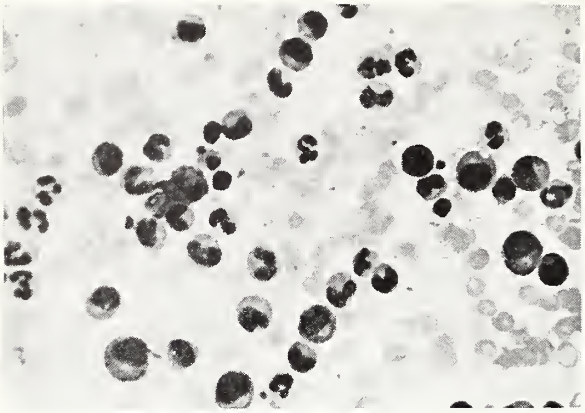

Fig. 1 Bone Marrow Smear, Case # 1. There is a marked predominance of myelocytic forms which show normal maturation. Active erythropoiesis also is evident. (Wright's stain, × 440)

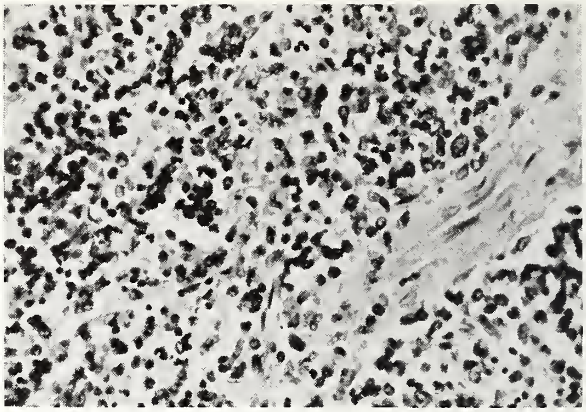

Fig. 3 Spleen, Case # 1. The trabecula is intact and the sinusoidal architecture is well preserved, without evidence of myelogenous infiltration. (H&E, × 250)

blasts (Fig. 1). Platelet count was 14,000 per cu mm. The patient was transfused with whole blood and discharged on continued steroid treatment.

His final admission was some 2½ weeks later. The patient was febrile (100.8 F) and a chest film revealed the presence of bilateral pneumonic infiltrates. The hemoglobin was 8.9 gms %; hematocrit, 28%; peripheral white cell count, 14,800 per cu mm with 7% metamyelocytes; 91% neutrophils; 1% lymphocytes; and 1% monocytes. The platelet count was 51,000 per cu mm. Repeated leukocyte alkaline phosphatase determinations were again zero. Despite vigorous therapeutic measures (staphcillin, benemid, mycostatin) the patient expired. Prednisone was discontinued two days prior to death. The autopsy revealed extensive bilateral lobular pneumonia due to *Pseudomonas aerugenosa* and granulomatous bronchopneumonia in the right upper lobe due to *Cryptococcus neoformans*. The liver weighed 1,880 gms and was grossly unremarkable. Microscopic examination revealed no evidence of infiltrative cellular elements in the portal areas (Fig. 2). The spleen weighed 270 gms and was congested. No infiltration of the parenchyma by atypical cells was present (Fig. 3). Postmortem bone marrow examination again revealed a marked myeloid hyperplasia, but with a definite persistence of the normal constituents and marrow architecture. In view of these microscopic findings, it was felt that the case should not be interpreted as myelogenous leukemia, based on the usual histologic criteria.

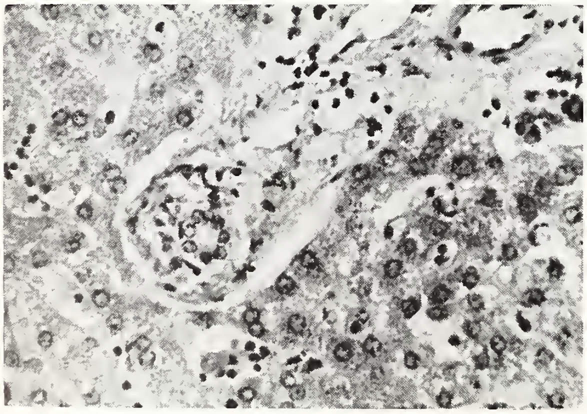

Fig. 2 Portal triad in liver of Case # 1. Note the bland appearance of the interstitium, especially the absence of myeloid precursors. The sinusoidal areas also are unremarkable. (H&E, × 440)

Case # 2. The patient was a 75-year-old woman with symptoms of progressive weakness for about one year. She had been treated by her local physician with "shots to build up her blood" and, then, with blood transfusions.

She was referred to the University of Missouri Medical Center about five months prior to death. Physical examination revealed enlarged, nontender, freely movable lymph nodes in the axillae. The liver was palpable 2½ finger breadths below the right costal margin. The spleen was not palpable. Hemoglobin was 8.9 gms %; hematocrit, 28%; white cell count, 4,800 per cu mm with a differential of 67% neutrophils; 26% lymphocytes; 5% monocytes; 2% metamyelocytes; and two nucleated erythrocytes per 100 white blood cells. The platelet count was 57,000 per cu mm. Leukocyte alkaline phosphatase activity was zero. Two bone marrow examinations were done with essentially similar findings. These revealed marked hypercellularity with an increase in both myeloid and erythroid elements. The differential was 3% blasts, 3% promyelocytes, 25% myelocytes, 18% metamyelocytes, 11.5% neutrophils, 2% eosinophils, 9% lymphocytes, 2.5% plasma cells, 1.5% pronormoblasts and 6% orthochromatic normoblasts. Stool guiac determinations intermittently were positive for occult blood, but no localizing lesions were demonstrable by x-ray. Sections of an axillary lymph node biopsy showed occasional atrophic cortical lymphoid follicles. There were early myeloid elements including myelocytes and a rare promyelocyte in the sinusoids, as well as occasional nucleated red cells and a few megakaryocytes. The nodal architecture, however, was entirely intact. The interpretation was "immature hematopoietic elements in axil-

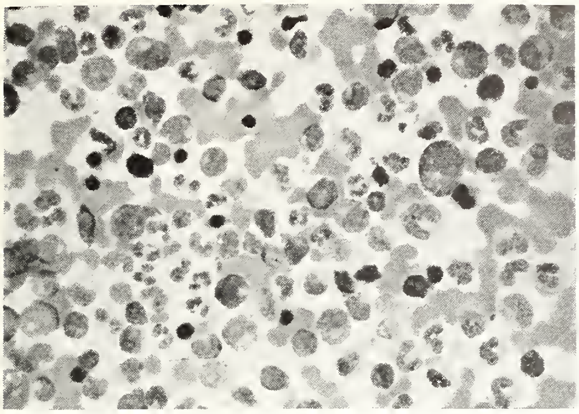

Fig. 4 Bone Marrow Smear, Case # 2. There is a marked myeloid hyperplasia with a slight left shift. Erythroid precursors are present in adequate numbers and appear to be maturing normally. (Wright's stain, × 440)

lary lymph node." The patient was discharged and followed as a "myeloproliferative disorder," preleukemic in nature.

The patient was readmitted two months later because of weakness. She had received three units of blood at her local hospital. The blood count showed hemoglobin, 9.9 gms %; hematocrit, 30%; white cell count, 4,200 per cu mm, with a differential of 60% neutrophils; 9% atypical neutrophils; 11% metamyelocytes; 5% monocytes; and 2% myeloblasts. The platelet count was 38,000. Leukocyte alkaline phosphatase activity was again zero. A bone marrow examination again showed both myeloid and erythroid hyperplasia with a differential count of 4.25% blasts, 8.75% promyelocytes, 20.8% myelocytes, 27.5% metamyelocytes, 22.5% neutrophils, 1.25% eosinophils, 3% lymphocytes, 11.5% normoblasts (Fig. 4). At this point, although a definitive diagnosis could not be made, it was decided to treat her as having myelocytic leukemia. She was placed on prednisone, 60 mgm daily, for approximately seven weeks, and 6-mercaptopurine, 100 mgm daily, for three weeks. Both medications were continued until her demise. The patient's platelet count remained below 50,000 and her course was essentially unaltered. She required multiple blood transfusions and eventually expired as a result of diffuse gastrointestinal bleeding.

The autopsy revealed multiple punctate bleeding points throughout the gastrointestinal tract. The liver weighed 1,900 gms and showed no evidence of leukemic infiltrate (Fig. 5). The spleen weighed 310 gms and, as in the liver, there was no microscopic evidence of infiltration by leukemic cells. The bone marrow was markedly hyperplastic (Fig. 6), but did not show leukemic infiltration or replacement of the usual cellular elements. The intestinal tract showed multiple, microfocal mucosal hemorrhages.

Discussion

As these cases illustrate, it is not always possible to categorize hematological problems morphologically. A discussion of the interrelated complexities of the myeloproliferative syndrome by Dameshek illustrates the problem.[7] His comment that the "diagnosis as between certain cases of chronic granulocytic leukemia and myeloid metaplasia is sometimes a matter of taste" has application here. During their clinical course, it was felt that our patients could not be diagnosed more specifically than "myeloproliferative disorder." Both died, never having developed the accepted morphologic changes diagnostic of leukemia. Based on anatomic (postmortem) and clinical-pathological studies, both have been designated as "Myeloproliferative syndrome (preleukemic myelogenous leukemia)." This diagnosis was chosen primarily because of the lack of anatomic evidence of leukemic infiltrations in the bone marrow, lymph nodes, liver and spleen at autopsy, as well as the clinical course (including the WBC, differential counts and the zero

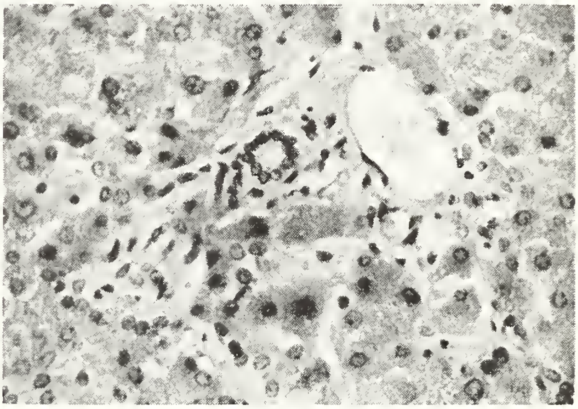

Fig. 5 Liver, Case # 2. The portal area is free of any leukemic infiltrate, and the sinusoids are entirely unremarkable. (H&E, × 440)

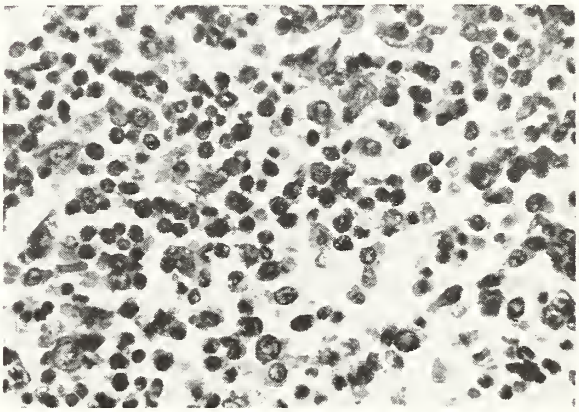

Fig. 6 Bone Marrow (postmortem), Case # 2. Note the marked hyperplasia of all elements, including several young megakaryocytes. The hyperplasia is evident by the absence of fat cells throughout the section. (H&E, × 250)

There is a lack of documentation of the prognostic significance of the relationship of leukocyte alkaline phosphatase activity to preleukemia and leukemia in patients of advanced age. The authors discuss the absence of leukocyte alkaline phosphatase activity in two cases of a myeloproliferative syndrome which terminated fatally in elderly individuals. Doctor Townsend is a Captain to the Fifth Corps Area General Laboratory. He was an Instructor in the Department of Pathology, University of Missouri School of Medicine, at the time this paper was written. Doctor Townsend is Professor of Pathology at the School of Medicine. This paper was presented in part at the 1966 annual meeting of the American Society of Pathologists.

value of repeated leukocyte alkaline phosphatase determinations) during patients' illness.

One could argue that the medications the patient received may have altered the anatomic and clinical-pathologic findings, as has been suggested by some authorities.[8] However, there is no evidence that the steroids and antimetabolites significantly altered the morphologic picture in either case since the bone marrow differential was essentially the same prior to therapy and at autopsy. In addition, the effect of corticosteroids on the enzyme, leukocyte alkaline phosphatase, is to increase its activity in the leukocytes. The enzyme activity was absent consistently in both cases reported here.

The problem of "atypical myeloproliferative disorders" is not a recent one as the condition was well defined by Block and Jacobson in 1953.[1] They reviewed 12 such cases, categorizing them as "preleukemic acute leukemia." These cases initially were characterized by anemia, thrombocytopenia and leukopenia, and all eventually developed morphologic changes diagnostic of acute leukemia. Blair, Bayrd and Pease[9] recently have reported on a group of 16 similar cases of which 11 terminated in acute leukemia. They remarked on the initial anemia, leukopenia and thrombocytopenia associated with a hyperplastic marrow, emphasizing especially the erythroid hyperplasia and dyspoiesis of some of their cases. The problem of the myeloproliferative syndromes, especially the leukopenic types, has been reviewed recently by Custer.[10] Other recent articles[11-14] also allude to this problem of "atypical leukemia," especially in relation to chromosomal analysis. Such cases, as well as the two we are reporting, illustrate a problem which arises when dealing with the "transition forms" of the myeloproliferative disorders; which is, that a patient can be seriously ill at a time when a morphologic diagnosis cannot be made and, indeed, in the elderly patient, remains an enigma at postmortem examination. This emphasizes the importance of utilizing other parameters to assess the process involved. Leukocyte alkaline phosphatase is one such parameter.

A meaningful correlation between leukocyte alkaline phosphatase activity and various disease states is complicated by lack of understanding of the in vivo function of the enzyme. It has been noted that there is a relationship between leukocyte alkaline phosphatase activity and chromosome 21. Individuals with 21 trisomy syndromes may have elevated leukocyte alkaline phosphatase activity.[15] In certain cases of chronic myelocytic leukemia in which there is an abbreviated form of chromosome 21, the "Philadelphia chromosome," alkaline phosphatase activity may be low.[16] Such early observations[15-16] led to the hope that the level of leukocyte alkaline phosphatase activity was directly under the control of a locus on the long arm of one of the small accrocentric chromosomes constituting group G, thus providing not only a diagnostic tool of some importance in the recognition of chronic myelogenous leukemia and Mongolism, but also a direct functional marker of activity on a chromosome.[17] More recent studies have shown that the situation is much more complex than formerly imagined.

It is not possible to relate low levels of leukocyte alkaline phosphatase activity in chronic myelogenous leukemia to DNA deletion or translocation from the long arm of chromosome 21. Not all cases of chronic myelogenous leukemia have the abbreviated Philadelphia chromosome[11, 14, 18] and leukocyte alkaline phosphatase activity is low to absent in patients with chronic myelogenous leukemia, regardless of karyotype.[18] There is a recent report of the Philadelphia chromosome occurring in a case of myeloproliferative disorder in which the leukocyte alkaline phosphatase was elevated despite the presence of this abnormal chromosome.[8] Hammouda and his co-workers[19] have shown that there is a marked increase in alkaline phosphatase in the mature polymorphonuclear leukocytes during the blastic phase of chronic myelogenous leukemia, despite the fact that no apparent reversal of the Ph′ defect of chromosome 21 occurred during this terminal phase of the illness.

Rosen and Tedlitz,[20] based on observations of alkaline phosphatase production in *E. coli*, recently have advanced a theory of gene action on chromosome 21 to explain these apparent discrepancies in the behavior of leukocyte alkaline phosphatase activity. They postulate that the control of leukocyte alkaline phosphatase is through the action of a pair of regulatory genes on chromosome 21, and that loss of the regulator gene, rather than the structural gene for leukocyte alkaline phosphatase, may explain the aberrant findings in this gene-enzyme control system. This interesting hypothesis remains to be tested and proven in the human cell.

Despite the present difficulties in elucidating the nature of the genetic activities of the G group of chromosomes, as well as their relationship to leukocyte alkaline phosphatase production, it remains that the measurement of the leukocyte alkaline phosphatase is a simple, inexpensive and effective test with which to follow the course of the so-called "atypical myeloproliferative syndromes." Maloney and Lange,[3] and Kemp *et al*[11] have shown that the leukocyte alkaline phosphatase activity is low in the preleukemic phase of chronic myelogenous leukemia. Further, Mitus and his co-workers[4] were able to utilize the leukocyte alkaline phosphatase activity to categorize a large group of patients with myeloproliferative syndrome. They found that the group with the lowest levels of leukocyte alkaline phosphatase activity was that which demonstrated the greatest cellular immaturity in the bone marrow and peripheral blood. Thus, were able to characterize two distinct groups among patients with myeloid metaplasia in which there was an apparent malignant transformation, even while the clinical and hematologic picture remained that of the more benign disorder.

Low leukocyte alkaline phosphatase activity also may occur in a number of non-neoplastic conditions such as congenital hypophosphatasia, paroxysmal nocturnal hemoglobinuria, aplastic anemia and infectious mononucleosis.[5, 21] The clinical setting and hematologic examination usually permit elimination of these disorders from diagnostic consideration in cases such as we are presenting in this paper. We encountered no difficulty in removing our cases from such benign conditions. Beyond this point, we progressed with less certainty, particularly in regard to patient prognosis and interpretation of the repeated zero leukocyte alkaline phosphatase values. Time has elucidated the problem in these two cases.

While these patients both died without anatomical evidence of acute leukemia, their demise was due to two of the complications commonly seen with this disorder, infection and uncontrollable hemorrhage. In the first case, there were both a bacterial infection due to a gram-negative bacillus and a rather extensive fungal lesion in the lung. The second case succumbed to uncontrollable diffuse gastrointestinal hemorrhage, secondary to the thrombocytopenia.

The most likely interpretation of these events is that in elderly, debilitated patients such as are herein described, death may occur from intercurrent events before the terminal leukemic phase becomes evident. In such a setting, low or zero leukocyte alkaline phosphatase determinations are of real value in evaluating the clinical situation and in assessing the prognosis in these individuals. Alternatively, such cases may represent a modified form of leukemia in the aged, and they should be managed with this as a prime diagnostic consideration.

SUMMARY

A fatal hematologic picture in the aged, consisting of myeloproliferative changes (especially granulocytic hyperplasia and dyspoiesis), absence of clinical-pathologic evidence of leukemia and zero leukocyte alkaline phosphatase activity, is described together with the postmortem findings. The value of the determination of leukocyte alkaline phosphatase activity in assessing the clinical course and prognosis of the disorder in such cases is discussed. It is suggested that these patients represent the so-called preleukemic syndrome or atypical leukemias which are interrupted in their course in the debiliatated, elderly patient by intercurrent complications, such as infection or exsanguination due to uncontrollable hemorrhage before the terminal acute leukemic phase sets in.

Note: Since December, 1965, we have been following a third elderly patient (a 71-year-old man) who presented with a clinical and pathologic picture similar to those described above. The leukocyte alkaline phosphatase has never been higher than two (in most instances, values of zero have been obtained). At the time of this writing, the clinical course is ominously similar to the patients reported herein, with five admissions for gastrointestinal bleeding. However, the most recent bone marrow now shows an increase in myeloblasts to 15%—a marked rise from the original marrow count. It appears that this patient will terminate in the acute leukemic phase of this disorder, in contrast to the patients reported above.

(Continued on page 39)

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Experimental Studies of Metastases

A Review—Part I

THE TERM CANCER RESEARCH, encompasses investigations for the single goal of cancer control. With present available forms of treatment of cancer, such as surgery or radiation, it is possible to achieve cure of the primary lesion plus regional lymphatic spread. In a large percentage of the apparently curable lesions, however, it is the development of distant metastases, either before or after initial treatment, which results in failure. In order to improve present survival rates after therapy, the factors and mechanisms of establishment of distant metastases deserve special analysis.

Experimental observations have shown that the production of metastases by cancer cells occurs in three continuous stages: the invasion of lymphatics and blood vessels by cancer cells; the transport of tumor emboli via established vascular pathways; and the lodgement, attachment and growth of embolic cells at the distant sites.[1] This paper will review the highlights of experimental reports which studied the differences of metastasized cancer cells from its primary tumors, the en-transient stages of cancer cytemia and the factors effecting the final establishment of metastases. Many controversial and contradictory results will be presented as such, not to confuse the readers, but only to reflect the present stages of progress. This review is not intended to be either conclusive or exhaustive. The fact that experimental animal testing systems are not completely comparable to human clinical situations needs no further elaboration.[2, 3]

It has been observed that the production of metastases by cancer cells occurs in three continuous stages. The author reviews the highlights of experimental reports of studies of the difference of metastasized cancer cells from its primary tumors, the en-transient stages of cancer cytemia and the factors effecting the final establishment of metastases. She also presents controversial and contradictory results to reflect the present stages of progress in research.

This review is not intended to be conclusive. In fact, it is the hope of the author that it will serve as a background for discussion and stimulate interest in further clinical and experimental research.

Doctor Lee is from the Department of Surgery, Ellis Fischel State Cancer Hospital and the University of Missouri School of Medicine. This investigation was supported by a Public Health Service Traineeship (CST-486 A66) from the Cancer Control Program, Public Health Service, U. S. Department of Health, Education and Welfare.

CANCER CELLS AND METASTASIZED CELLS

A. *Biochemical changes of the nucleus and cytoplasm*

The cancerization of the cell is dependent on an alteration in the genetic material, so that the altered cell is no longer capable of responding to the restraint of normal growth control.[4] Quantitatively, the basic mean DNA content of the nucleus (5.6×10^{-9} mg/cell) shows a limited degree of variation from cell to cell in normal tissues. In precancerous and malignant tissues, there is a greater scatter and less uniformity as in normal tissue. However, the difference could be due simply to increased mitosis.[5] Rabotti[6] compared the chromosomes of primary and metastatic tumors of men and found a greater number of chromosomes (heteroploidy) in metastasis than in primary. Koller[7] observed that malignant effusion cells had more abnormal mitosis than those of the primary tumor. He believed that carcinomatosis in men is conditioned by the transformation of differentiated cells into an anaplastic type.

As early as 1930, Warburg[8] demonstrated that normal tissue exhibited a high respiration rate with some glycolysis. In tumors, by contrast, low or normal respiration was the rule with high glycolysis. Although certain exceptions were found, this observation still is one of the most consistent findings in the biochemical study of cancer cells.

By addition of glucose to the substrate, normal cells responded by increasing glycolysis and respiration, while malignant cells responded by increasing glycosis but decreasing respiration. Kiricuta *et al*[9] found that metastatic tumor behaved not like primary tumor but like the normal tissues. This suggested that metastases had achieved "adaptation of enzyme functions" which the primary tumor lacked. Goldman *et al*[10] also found that while primary neoplastic tissues had elevated lactic dehydrogenase, the metastases had decreased levels and with different composition.

Kogl *et al*[11] observed that a rat sarcoma and the Brown-Pearce (B-P) rabbit carcinoma contained less phospholipid than normal tissues. Carruthers *et al*[12] noticed no significant difference in the amount of the various phospholipids in mouse epidermis going through normal to hyperplastic to malignant states. Siperstein *et al*[13] have demonstrated abnormal control of cholesterol synthesis in a number of liver tumors. Weiss[14] summarized the situation by saying that "no statement can be made about the lipids of tumors in general, because differences exist between hepatomas in which there is a decrease in total phospholipids and skin tumors in which there is an increase."

Cytoplasmic proteins of various malignant tumors were separated and analyzed. Approximately 70% was similar to the proteins in the serum, the remaining 30% was found exclusively in the tumor.[15] Soluble proteins and various enzymatic activities showed a pattern of distribution in rhabdomyosarcoma different from that in the normal muscle.[16] The soluble proteins of both the rhabdomyosarcoma and hepatoma were identical with those of their lung metastases.[17] Electron microscopic studies of marcomolecular particles obtained from human neoplastic and non-neoplastic lymph nodes showed no significant difference.[18] Since some tumors are capable of producing peptide by active secretion, the interrelationship of variations of serum proteins and neoplasms has been reviewed.[19] Hyperglobulinemia is found in patients with bronchogenic cancer and chronic granulocytic leukemia, while 50% of chronic lymphocytic leukemia has decreased globulin. Dysproteinemia and hyperlipemia are found in some patients with hepatocarcinoma.

Macbeth *et al*[20] found significant elevation of plasma glycoproteins in patients with malignancy. However, Winzler *et al*[21] stressed the difficulties in determining whether abnormal glycoproteins originate in cancer cells per se or whether they are a nonspecific result of tissue damage. Rottino *et al*[22, 23] found an "erythrocyte slowing" protein factor in the serum of persons with cancer. It appeared before gross cancer was evident and persisted in patients who had cancer removed years previously. In summary, "most human cancers are not associated with known aberrations of serum or urinary enzymes or metabolites that are valuable in their detection."[24]

The Editorial Board of MISSOURI MEDICINE has divided the paper, "Experimental Studies of Metastases," into three segments. Space limitations preclude publication of this scholarly work in a single issue. The extensive Bibliography also has been divided, but reference numbers will be continuous from installment to installment.

To provide the reader with an overall view of Doctor Lee's work, the Editors offer the following outline:

Experimental Studies of Mestastases

Part I

Cancer Cells and the Metastasized Cells
  A. Biochemical Changes of the Nucleus and Cytoplasm
  B. Electro-Chemical and Structural Changes of Cell Membrane

Part II

En-Transient Stage of Circulating Cancer Cells
  A. Studies on Fate of Circulating Cells
Establishment of Metastasis
  A. Tumor Cell Retention in Organs
  B. Reaction of Tumor Cells and Endothelium
    1. Heparin

Part III

Establishment of Metastasis (Cont'd)
  B. Reaction of Tumor Cells and Endothelium (Cont'd)
    2. Other Anticoagulant Agents
    3. Dextran
    4. Fibrinolysin
    5. Trauma and Steroid
    6. Surgical Procedures

B. Electro-chemical and structural changes of cell membrane

The surface of malignant cells has more electrical negative charges than that of their normal ancestors.[25] The ease of producing ascites form and metastasis of a mouse sarcoma also is correlated with its progressive increase in negative electrical charges.[26] This change in surface property of malignant cells may account for the phenomenon of contact inhibition between tumor and neighboring cells,[27] and the important tumor cell-endothelial bond.[28] The migration of cancer cells through the blood vessel wall also can be explained on a potential gradient between the medium of plasma and the perivascular tissue.[29]

Ruhenstroth-Bauer[30] has studied more than 1,000 blood samples. He found that leukemic leukocytes had abnormal faster electrophorectic mobility while their erythrocytes mobility were normal. The electrophoretic mobility of both erythrocyte and leukocyte can be reduced by incubation with neuraminidase. This suggests that neuraminic acid and their acidic carboxyl groups play a decisive role in the excess negative charge. Gasic and Gasic[31] have shown that if neuraminidase is injected into the vascular system followed by administration of mouse ascites cells, the proportion of takes is significantly lower. However, Fuhrmann[32] found that the electromobilities of both proliferating rat liver cells and malignant ascitic cells were high. As summarized by Weiss,[14] "that increased cellular electrophoretic mobility is not to be directly correlated with cancer as distinct from growth-rate, and sialic-acid-mediated charge patterns can not be exclusively related to cancer."

Cancer cells can repel normal cellular attachments, develop more than one pseudopoda and change their direction of motion more often than normal cells.[33] Apparently malignant cells acquired this locomotory mechanism concomitantly with the ability to become mitoticly active.[27] Both are required for invasion and the ability "to blanket over other cells and suffocate them."[34] A good correlation was found between the degree of invasiveness and/or metastatic frequency and the ameboid motility observed among strains of ascitic hepatoma.[35] Experimentally, tumors with the highest metastatic frequency required the fewest cells for transplantation.[36] Therefore, the capacity for intravasation (motility) and/or transplantability (the ease of transplantation) appears to be an intrinsic property of the particular cancer cells.[37]

Coman *et al*[38, 39] found that malignant squamous and adenocarcinoma cells have decreased mutual cellular adhesiveness more than their normal counterpart. The "lethal cancers" were malignancies that lost coherences of cells and associated with more rapid widespread metastases.[40] Since decreased calcium content was found in intestinal cancers compared to that of adjacent normal mucosa,[41] a molecular bond of calcium was proposed as the basis of cellular adhesiveness.[42] Recent study showed that EDTA produced a higher protein leakage in normal liver cells than that of hepatoma cells.[43] Despite a decrease of mutual cohesiveness among the malignant cells, there is an increase of affinity to other surfaces (stickiness). The degree of stickiness to a glass surface of three types of hepatoma cells has been correlated with its corresponding incidence of pulmonary metastases.[44]

Surface contour of normal and malignant rabbit epithelial cells were examined under the electron microscope.[45] Normal cells revealed a smooth texture and uniform ultra-structures, while the cancer cells had irregular surfaces and were composed of larger particles. Others[46] found no difference in surface contours between normal and leukemic rat lymphocytes. Recently, intracellular microelectrodes were used to study the ionic passages of cell membrane.[47] It was found that, while normal rat liver cells demonstrated ionic communication, no communication was demonstrated between the hepatic tumor cells. This lack of communication between the cancer cells may be important in the initiation of unrestrained growth.

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Preleukemic Myelogenous Leukemia (Cont'd)

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New (?) Gallbladder

Case Report

A CARDINAL ROENTGEN CONTRIBUTION to the examination of the postcholecystectomy patient is the disclosure of a cystic duct or gallbladder remnant. Dilatation and calculus formation in remnants have been attributed to the length of the gallbladder or duct stump left by the surgeon or to intraductal hypertension. Favoring the probability of an incomplete cholecystectomy are such factors as procedures performed under the duress of an acute cholecystitis, a technically difficult procedure and operation by a less-than-experienced surgeon.

This case presentation concerns a patient whose hospital records do not reflect either these operative factors or pathologic evidence of less than a total gallbladder resection. Moreover, this sizable "reappearing gallbladder" containing multiple calculi intimates more than expressed by the label "miniature gallbladder" due to an enlarged cystic duct stump.

CASE REPORT

The patient, a 39-year-old woman, was initially hospitalized in July, 1951, because of repeated attacks of gallstone colic. Consecutive cholecystograms revealed such faint concentration of the cholecystopaque that calculi could not be excluded (Fig. 1). The roentgenologist's conclusion was "marked impairment of gallbladder function." Subsequently, "a fibrous gallbladder measuring 6 x 3 cm, firmly packed with innumerable faceted stones" was removed. The calculi averaged one centimeter in diameter; chronic cholecystitis was apparent.

In mid-May, 1954 (three years postcholecystectomy), the patient was readmitted with vague epigastric complaints. Gastrointestinal X-ray studies were negative. A routine cholecystogram revealed a gallbladder of normal size and configuration, free of gallstones (Fig. 2).

During the following nine years, the patient was hospitalized on five occasions on various services for unrelated complaints, as well as for classic symptomatology of gallbladder disease.

Cholecystography was next scheduled in February, 1963 (almost 12 years postcholecystectomy). Now, reexamination disclosed intense concentration of Telepaque by a gallbladder containing four faceted radiolucent calculi (Fig. 3). A laparotomy revealed numerous adhesions from the initial cholecystectomy. A routine second cholecystectomy was performed

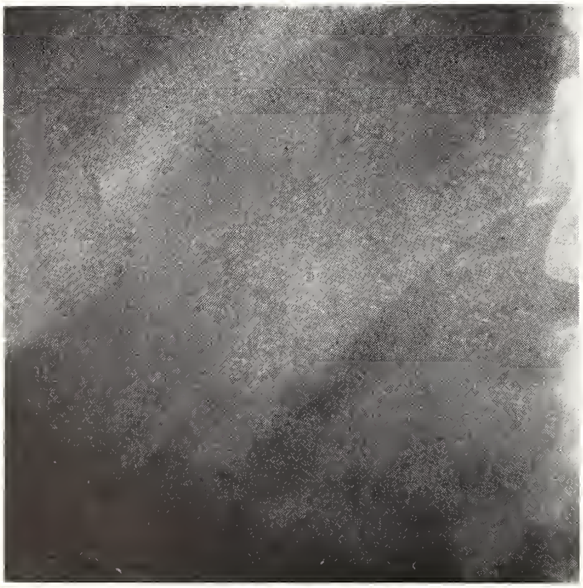

Fig. 1 Faint gallbladder image in initial cholecystogram.

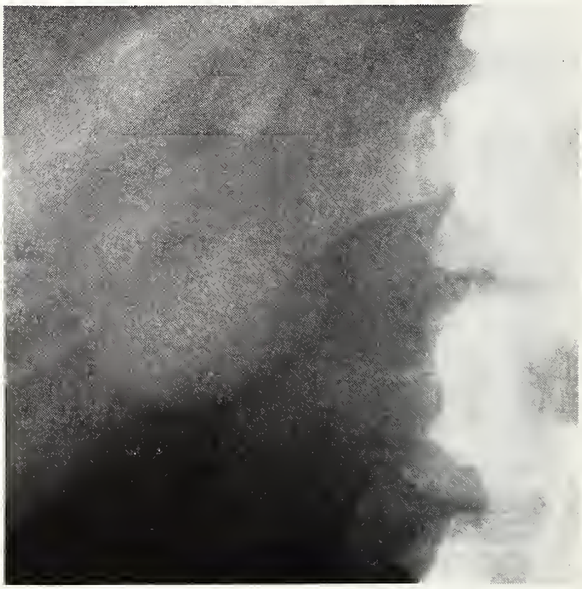

Fig. 2 Normal "new" gallbladder, three years after cholecystectomy.

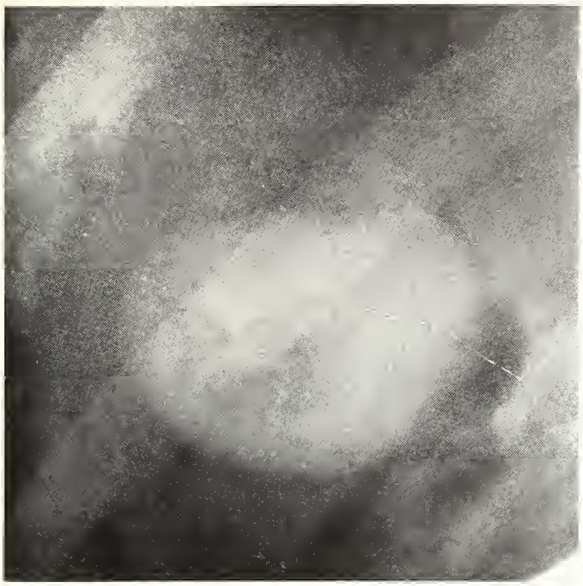

Fig. 3 Cholelithiasis, 12 years after cholecystectomy.

and a single small stone removed from a common bile duct of normal caliber. An operative cholangiogram was negative.

Discussion

Several of the pathologist's comments corroborate the suspicion that the gallbladder specimen was no ordinary cystic duct stump: the second gallbladder exceeded the first in size. Furthermore, the muscular coat was "considerably more developed than is usual in the biliary duct system." Finally, "towards one end, the mucosa was thrown into irregular folds similar to that generally seen in the vicinity of the ampulla." Nevertheless, the description of the original gallbladder was that of a completely removed organ. Neither pathologist nor surgeon alluded to other than a total cholecystectomy having been performed.

Double Gallbladder. The remote chance that the second gallbladder represented the remaining organ of the extremely rare double gallbladder syndrome appears tenable. Not only do both segments of a double gallbladder frequently development similar diseases, but each may have a distinct cystic duct. These may enter the common bile duct separately and one remain unrecognized if ductal exploration is not performed.

Several points refute this contingency. The first postcholecystectomy examination revealed an intense gallbladder shadow. If this was due to a second gallbladder, why had it not opacified in the preoperative study? Furthermore, duct exploration during the final cholecystectomy revealed no evidence of multiple cystic ducts.

In reporting this rare case of a "reappearing gallbladder," the author reminds the general practitioner of important, but often neglected, guide lines for the management of the postcholecystectomy patient. Doctor Dietz is Director, Department of Diagnostic Radiology, Burge-Protestant Hospital and Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

Oral Cholangiography, a neglected technic. Successful demonstration by Telepaque of a reformed gallbladder of this magnitude may be anticipated. Many clinicians, however, would have initiated postoperative investigation of the biliary tract by Cholografin administration. Certainly, intravenous cholangiography is currently accepted as the method of choice in evaluation of the nonjaundiced, cholecystectomized patient.

That actively concentrating gallbladder mucosa is unessential for successful oral cholangiography may not be generally appreciated. In the absence of the major zone of Telepaque concentration, the gallbladder, larger than usual amounts of radiopaque agent frequently result in choledochograms equivalent to Cholografin studies, but without the disadvantages of potential iodine-sensitivity, intravenous injection and time-

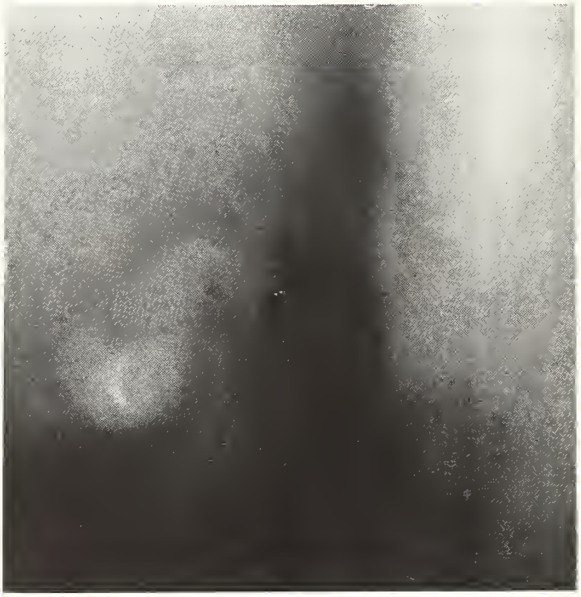

Fig. 4 Routine Telepaque demonstration of calculous cystic duct remnant.

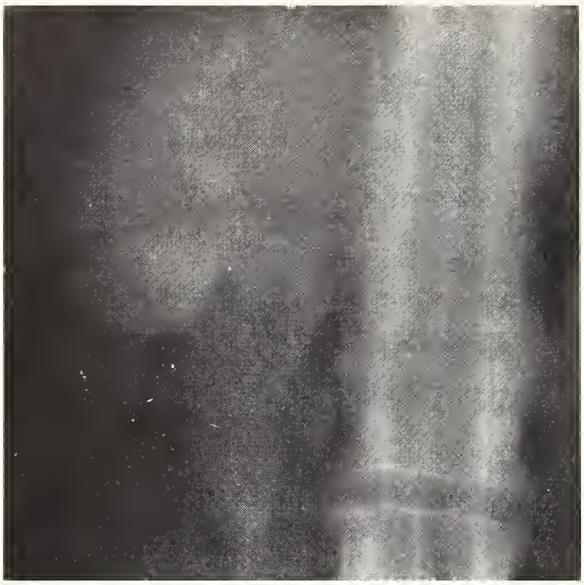

Fig. 5 An intravenous cholangiogram discloses a normal gallbladder.

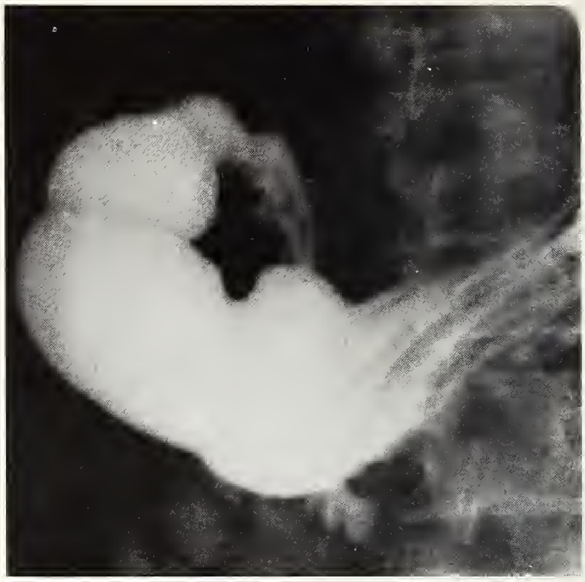

Fig. 6 A subsequent barium meal opacifies a duodenal bulb simulating the gallbladder.

consuming reexaminations. Roentgenologists are aware of the effectuality of intensified Telepaque technics in reducing the number of "no shadow" gallbladder cases.

A choledocholaminogram, Fig. 4, illustrates a workable oral procedure in a patient hospitalized because of a typical postcholecystectomy syndrome. A survey abdominal projection revealed a single opaque calculus. Prior to prescribing an intensified Telepaque technic, routine dosage opacified a lengthy, dilated cystic duct.

According to Phemister's law, a ductal stone which forms de novo rarely contains sufficient calcium to be primarily visible. Thus, this opaque stone probably had formed in the gallbladder and had eluded the previous surgeon. Delayed opacification of noncalcific bile duct stones, so-called "biliary calculography," in postcholecystectomy patients is another documented accomplishment of prolonged Telepaque dosage.

A convenient oral choledochographic plan with much merit is based on the administration of 18 Telepaque tablets and three teaspoons of paregoric during the preceding evening and the morning of examination. In the event of nonvisualization, a supplementary intravenous cholangiogram may be attempted without delay.

The Cholografin-Opacified Gallbladder: differential diagnosis. Unabsorbed Telepaque within an obstructed antrum or bulb or within a duodenal diverticulum is unlikely to be confused with an opacified gallbladder shadow. However, when Cholografin is employed in biliary tract studies, ductal emptying frequently results in the opacified bile flowing into a normal duodenum or gastric antrum, thereby simulating either a cystic duct remnant or the gallbladder. The potentiality for misdiagnosis is particularly prevalent when doubt exists as to whether a cholecystectomy was performed during a preceding laparotomy.

Fig. 5 is a laminographic cholecystocholangiogram of a patient with just such a dilemma. Cholografin-laden bile delineates a pear-shaped gallbladder, as well as the duct system. Fig. 6 is a barium study performed in an identical position. The "gallbladder" is the duodenal bulb opacified by retrograde reflux of Cholografin! It appears to be in direct relation to the cystic duct. (Note that the latter joins the common bile duct on its medial, rather than its lateral aspect.)

Thus, a barium swallow may be as helpful in unmasking a "false gallbladder" as it frequently is in outlining a hiatal hernia suspected because of an obscure retrocardiac shadow.

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Idiopathic Adult Intussusception

Case Reports

Intussusception is an unusual cause of intestinal obstruction in adults. In a general hospital population, this diagnosis is responsible for less than 0.1% of admissions.[1] Intussusception beginning in the small intestine and involving only the small bowel, frequently classified as enteric intussusception, is even more unusual, amounting to 14% of all adult intussusception.[2] Eighty percent to 90% of enteric intussusceptions are associated with a small bowel tumor or other definite etiology. The recent occurrence of four idiopathic jejunal intussusceptions in adults, each associated with peptic ulcer diasthesis, initiated this report.

Case Reports

Case # 4. A 15-year-old white boy was admitted to the neurological surgery service in May, 1958, because of a head injury sustained when he was thrown from a horse. An emergency right temporal craniectomy was done and a large extradural hematoma was evacuated. His condition improved at first, but deteriorated 48 hours later and a craniotomy was performed with evacuation of a small subdural clot. The tentorial edge was incised because of uncal herniation. Postoperatively, his neurological condition improved slowly. Nine days after operation, upper gastrointestinal bleeding began. He was given blood transfusions and antiacids, and the bleeding stopped. Fourteen days after craniotomy, the upper gastrointestinal bleeding began anew, requiring additional transfusion. On the 19th postoperative day, a third bleeding episode began, accompanied by abdominal distention. Abdominal exploration demonstrated an actively bleeding duodenal ulcer which had perforated into the right lobe of the liver, a jejuno-jejunal intussusception which was easily reduced and a volvulus of the sigmoid colon. There was no palpable lesion at the lead point of the intussusception. Cardiac arrest occurred during closure of the abdominal wound. Efforts to resuscitate failed and the patient died. An autopsy was not performed by the Coroner's office.

Case # 5. A 45-year-old white man was admitted in September, 1962, because of left anterior chest pain. In 1961, he had been treated by subtotal gastrectomy because of an intractable duodenal ulcer. Later the same year, an anastomotic peptic ulcer developed and vagectomy and resection of the gastroduodenal anastomosis and gastrojejunostomy were performed. In 1962, an episode of gastrointestinal bleeding occurred. It was found to be due to peptic esophagitis secondary to an esophageal hiatal hernia. The hernia was repaired and a cholecystectomy was done.

Shortly after admission, the chest pain subsided and there was no electrocardiographic or enzymatic evidence of myocardial infarct. During hospitalization, he developed intermittent cramping right lower quadrant abdominal pain. An upper gastrointestinal examination demonstrated a postoperative status of gastrojejunostomy without abnormality. A barium enema was negative. Later in his hospital course, he developed diarrhea with a positive guaiac reaction. Extensive gastrointestinal studies failed to demonstrate a lesion. An exploratory celiotomy was done in mid-October, 1962, and no abnormality was found. A jejunal biopsy was obtained which was normal on histological examination. On the fourth postoperative day, cramping abdominal pain developed. Plain x-rays of the abdomen were not remarkable. On the fifth postoperative day, a tender abdominal mass was noted and the abdomen was re-explored. A jejuno-jejunal intussusception was found and resected. The pathologist's diagnosis was intussusception with hemorrhage and necrosis. The biopsy site in the jejunum was found in the intussusceptum. The postoperative course was complicated by Herpes Zoster. Otherwise, recovery was uneventful.

Case # 6. A 51-year-old white man was admitted in January, 1964, with mid-epigastric pain. He gave a long history of duodenal ulcer including perforation with surgical closure. In October, 1960, he was

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The author reports on the 25-years' experience with adult intussusception at Barnes Hospital and cites four recent cases in which a possible relationship to peptic ulcer diasthesis is noted for the first time in the American and English literature. Doctor Keltner formerly was Assistant Professor of Surgery at the Washington University School of Medicine and Assistant Surgeon at Barnes Hospital, St. Louis. He is now in the private practice of surgery in Hancock.

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treated elsewhere by subtotal gastric resection and vagectomy. There had been no hematemesis or melena. Physical examination was not remarkable. An upper gastrointestinal x-ray examination demonstrated a partially obstructed afferent loop and an anastomotic ulcer was suggested. At operation, an intact posterior vagus nerve was identified and there was a 1 cm neuroma of the previously sectioned anterior vagus nerve. There was partial obstruction of the afferent loop where it had been sutured to the lesser curvature of the remaining stomach. The posterior vagus nerve was cut and the gastrojejunostomy revised.

On the fifth postoperative day, the patient developed abdominal pain. Amylase and lipase determination were within normal limits. The pain subsided and oral alimentation was begun. On the tenth postoperative day, abdominal pain recurred and was accompanied by vomiting. An upper gastrointestinal x-ray was made using water-soluble contrast material. The gastrojejunostomy functioned well without abnormality. Greatly dilated loops of jejunum were demonstrated and a diagnosis of mechanical small bowel obstruction was made. At operation, a jejuno-jejunal intussusception was found 15 cm distal to the gastroenterostomy and an ileo-ileal intussusception was found about 60 cm from the ileocecal valve. Both intussusceptions were resected. The pathologist's diagnosis was jejuno-jejunal and ileo-ileal intussusception with inflammation and fibrosis. The postoperative course was complicated by a superficial wound infection. Otherwise, recovery was complete.

Case # 7. A 48-year-old white man was admitted in December, 1965, because of intermittent abdominal pain. A diagnosis of duodenal ulcer had been made five years previously, after gastrointestinal x-rays at another hospital. There had been no hematemesis or melena. There was slight epigastric tenderness. Otherwise, the physical examination was unremarkable. An upper gastrointestinal x-ray examination was interpreted as minimal duodenal bulb deformity without evidence of ulcer crater. The possibility of prolapse of the gastric mucosa was raised because of large gastric vugae.

At exploratory celiotomy, a scarred duodenum was demonstrated and there was hypertrophy of the gastric mucosa. The small bowel and colon were normal. A Heineke-Mikulicz pyloroplasty was performed. The postoperative course was uneventful.

The patient was readmitted in January, 1965, complaining of intermittent cramping abdominal pain which was increasing. He began to vomit the day before admission. X-rays, both plain and with water soluble contrast media, showed a partial small bowel obstruction. He did not improve with nasogastric intubation and underwent an operation. A jejuno-jejunal intussusception was found and resected. The pathologist's diagnosis was chronic inflammation with fibrosis at the site of intussusception. The postoperative course was uneventful.

The Barnes Hospital experience with adult intussusception between 1940 and 1965 was limited to seven cases. This is considerably fewer cases than might be anticipated from previously published series.[1,3] The four cases of idiopathic enteric intussusception have been recorded in detail above and the total experience is summarized in Table 1.

Discussion

Intussusception was one of the first specific causes of intestinal obstruction to be recognized. Cope[4] has recorded the early history of surgical operation for intussusception, the first case being reported in 1742. It is interesting to note that the first three successful cases reported were in

TABLE 1

Intussusception in Adults—Barnes Hospital 1940-1965

Case. No.	*Year*	*Age*	*Sex*	*Type*	*Etiology*	*Remarks*
1	1942	47	M	Ileocecal	Small Bowel sarcoma	
2	1951	60	M	Cecocolic	Adenocarcinoma of cecum	
3	1951	54	F	Ileocolic	Unknown	Ileum intussusceptum, transverse colon intussusceptens via ileo-transverse colostomy made to divert small bowel fistula.
4	1958	45	M	Jejuno-jejunal	Unknown	See Case Reports
5	1962	49	M	Jejuno-jejunal	Unknown	See Case Reports
6	1964	51	M	Jejuno-jejunal ilioileal	Unknown	See Case Reports
7	1965	48	M	Jejuno-jejunal	Unknown	See Case Reports

TABLE 2

INTUSSUSCEPTION IN ADULTS—AMERICAN AND ENGLISH LITERATURE

Ref. Nos.	*Year*	*Author*	*Total Cases*	*Previously Unreported Cases*	*Enteric Cases*	*Enteric Cases*	*Jejunal*	*Ileal*	*Other*	*Known Etiology*	*Idiopathic*	*Remarks*
22	1937	Chaffin	18	18	18	18				2	16	All during pregnancy and post partum
30	1936	Christopher	2	2	1	1				1		
31	1941	Coleman	1	1	1	1	1				1	"Compounded" 4 times
17	1964	Crane	8	8	1	1				1		
3	1956	Dean	96	96	29	29	11	16	1*			*One duodenojejunal case 10 of total series unknown etiology
1	1953	Deterling	40	40	12	12	6	6				
9	1950	Donhauser	667	12	58	58	53	4	1*			*One retrograde ileojejunal
32	1911	Eliot	294	—	19	19	5	10	4		2	10 enteric cases with malignant tumors
2	1937	Freilich	3,284	—	462	—	25	—	—	22	3	
33	1910	Goodall	122	4	17	17	—	—	—	—	—	
34	1945	Iason	6	6	0							
35	1956	Roper	124	12	8	8				1	7	
8	1958	Sanders	1,252*	12								*Included cases from Ref. Nos. 1, 3, 9, 29, 35
15	1965	Sower	23	4	2	2				2		Excluded from total cases All associated with long intestinal tubes
	1967	Keltner	7	7	4	4	4	1*			4	*One case with two enteric intussusceptions
Totals			4,692	222	632	170	105	37	6	29	33	

adults. The etiology of one of these cases was said to be a round worm. It was not until 1871 that Hutchinson's reports[5, 6] focused surgeons' attention on the surgical treatment of intussusception.

An attempt has been made to summarize the American and English literature on adult intussusception since 1910 in Table 2. Because of the absence of details of age and anatomical classification in the various publications, it is impossible to be certain of the number of idiopathic enteric adult intussusceptions previously reported. Where definite information was available, these cases have been culled from published series and are tabulated in the last column of Table 2. Twenty-nine idiopathic enteric adult intussusceptions have been previously reported, to which the present four cases are added.

The majority of adult intussusceptions are associated with tumors or other intrinsic lesions of the gut, which act as a lead point in the development of the intussusception. Conversely, the great majority of intussusceptions in children are idiopathic and occur during the first two years of life.[7] From an extensively compiled series, Sanders[8] reported the incidence of etiologies as follows: in children; 95.7% idiopathic, 3% due to Meckel's diverticulum, 1% due to benign polyps and 0.3% secondary to duplications. In adults: 38% are due to malignant tumors, 31% benign tumors and 13% due to miscellaneous causes. The remaining 20% are of unknown etiology, and the majority of these[9] are the ileocolic type. According to published series there is little doubt that the enteric intussusception is associated most frequently with tumors or other lesions of the small bowel.[2, 3]

Very little is written of an objective nature regarding the causation of intussusception in adults not associated with a gross lesion. In reporting individual cases, several authors have speculated regarding etiology. The recorded experimental work also is scant. Intussusception has been produced in experimental animals by direct electrical and chemical stimulation of the bowel [10, 11] and by systemic use of physostigmine.[12] It is difficult to imagine such drastic stimulus occurring in the range of physiologic norms in the human. Judging from reported cases it appears that nonphysiologic stimulation of the gut by any means may predispose to the development of an intussusception.

Intussusception without intrinsic lesion has been reported after abdominal trauma,[13] ingestion of foreign bodies[14] and association with the use of long intestinal tubes.[15] Vagarious diets, which presumably alter peristaltic patterns, also have been suggested as causative, especially after fasting[16] and with a bulky diet consisting almost entirely of rice.[17] Any number of general and local inflammatory lesions have been implicated, such as food allergy,[18] parasitic infestation,[17, 19] reaction to retroperitoneal renal allograft in experimental animals,[20] lymphoid hyperplasia secondary to any number of inflammatory conditions[7] and in the duodenum secondary to Brunner's gland hyperplasia.[21]

Another category of possible causation might be termed "altered physiologic response." Chaffin's report of 16 idiopathic enteric intussusceptions during pregnancy and the postpartum period is particularly interesting in this regard.[22] Donhauser,[9] who recorded 58 enteric cases in adults, listed idiopathic cases by etiologic factors other than tumors. The most frequent of these were prior gastroenterostomy, prolapse of the gastric mucosa and hypertrophy of gastric mucosa.

Nowhere in the literature has adult idiopathic enteric intussusception been related to peptic ulcer diasthesis, as it might be from the four cases reported herein. In the Barnes Hospital experience, each of the four cases occurred in individuals with severe peptic ulcer or in persons who had had previous gastric operations for peptic ulcer. In Perman's extensive monograph on peptic ulcer,[23] a section is devoted to a discussion of so-called "gastric ileus." Under this title are included the various mechanisms of stomal or small intestinal obstruction following gastrectomy. No enteric intussusceptions were observed. However, several cases of small bowel volvulus are reported in detail. It was postulated that altered peristaltic activity was an etiological factor.

Perman described experimental evidence to support his speculations regarding altered peristaltic activity. Included were experiments that demonstrated an increased electrical irritability of small bowel from one to four days after a major operative procedure. Experimental extirpation of the coeliac ganglion also was reported and the consequences described. As might be anticipated, there was no decrease in peristalsis after operation in these cases, but there was an increase lasting for several days. Section of the vagi did not effect the motility of small intestine appreciably, although the inhibitory effect on gastric motility is well known. Perman theorized from these experiments that alteration in sympathetic parasympathetic balance might be responsible for significant changes in peristaltic patterns which could be responsible for volvulus or intussusception. Others[24-36] more recently have postulated that abnormal peristalsis after gastric resection is a factor in retrograde jejuno gastric intussusception.

Signs and symptoms of enteric intussusception in adults are those of intermittent abdominal pain and distension, with or without an abdominal mass. There is blood in the stool infrequently. The gastrectomist should be aware of this lesion as a possible cause of postoperative obstruction. In the reported cases, the attending surgeon entertained diagnoses of postoperative pancreatitis or prolonged ileus secondary to vagectomy before the correct diagnosis was established at celiotomy. The chronic nature of intussusception in the adult has been emphasized repeatedly.[27] Wilms'[28] discusses a possible explanation for the chronicity observed in adult intussusception, viz; the size and distensibility of adult small bowel allows for intussusception without circulatory compromise. On the other hand, the small lumen in the young child makes for constriction of the intussusceptum, edema and vascular compromise. Plain x-ray examination seldom is helpful except to demonstrate mechanical obstruction. Schatzki[29] has noted on plain x-rays a sausage-shaped, homogeneous shadow outlined by two stripes of air or concentric rings of lighter density, which are thought to represent an air-filled bowel about the intussusceptum. The "coiled spring" appearance when contrast media is introduced is well known.

The treatment is, obviously, early surgical operation as soon as the diagnosis of mechanical obstruction is established. In the reported cases, resection frequently was necessary because of long duration and circulatory compromise. The dictum of resection in cases of adult intussusception, regardless of anatomical type, is valid because of the high incidence of associated malignant tumors. When colon is involved, the incidence of colonic carcinoma is near 70%.[8]

Summary

1. Four cases of idiopathic enteric adult intussusception are reported and the total adult experience for a 25-year period at the Barnes Hospital is summarized.

2. The American and English literature is re-

viewed and 29 cases of idiopathic enteric adult intussusception were found. With the four cases from the present report, a total of 33 cases are recorded.

3. The various speculations on etiology are enumerated. The only common factors appear to be altered peristaltic activity secondary to any number of possible causes.

4. A possible relationship is noted to peptic ulcer or gastric surgery.

5. The diagnosis should be suspected in cases of postoperative obstruction after gastric resection and may be established by the use of water soluble contrast upper gastro-intestinal examination.

6. Resection is proper surgical treatment in adults regardless of site, because of the high frequency of associated malignant tumors.

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1100 Quincy St., Hancock, Michigan 49930

Approximately 300 patients and friends gathered to pay tribute to Dr. David N. Kerr of St. Louis, President-Elect of the Missouri State Medical Association, at a Surprise Dinner on December 6 in Clayton. The unusual event in Doctor Kerr's honor was planned by a group of his appreciative and dedicated patients.

A. SHERWOOD BAKER, M.D., F. MARIAN BISHOP, Ph.D.,
EDWARD W. HASSINGER, Ph.D. ***and*** **DARYL J. HOBBS, Ph.D.,** ***Columbia***

Distribution of Health Services in Missouri: III. Medical Service Centers

RECENT TRENDS in the distribution of medical services reflect the influence of specialization and centralization. Associated with these trends is the organization of medical services. This organization has become increasingly complex. Specialized physicians are more dependent upon the presence of other physicians, and physicians in general are increasingly dependent upon the presence of related services such as hospitals and pharmacies. Consequently, trends in location of various medical services reflect these emerging interdependencies.

The purpose of the third and final article in this series dealing with the distribution of health services in Missouri is to categorize various Missouri towns according to a level of medical service complexity and indicate the geographical distribution of these towns.

METHODOLOGY

One method of determining the distribution of complexity in towns and centers is to compare them with respect to the presence of interdependent medical services. For purposes of this report, an arbitrary separation of professional medical services is made into seven levels. These levels range from no available medical services to a complex of services assumed to co-exist with a hospital of 75 or more beds. Specific criteria used to categorize each of the levels of medical service complexity are:

Type 0—No service as listed in following types.

Type 1—At least one medical or osteopathic physician in private practice.

Type 2—At least one dentist in private practice.

Type 3—A general hospital with ten or more beds.

Type 4—At least one medical doctor reported as a full-time specialist.

Type 5—At least one full-time specialist certified by his specialty board.

Type 6—A general hospital of 75 or more beds.

These seven types of medical service centers represent a hierarchy of complexity ranging from no available defined services to the complex of medical services located in conjunction with a hospital of 75 or more beds. For this study, services found in specific hospitals are not enumerated, although hospitals of 75 or more beds usually include a variety of specialized service functions. In moving from the single medical service of a practicing physician specified as *Type 1* to the general hospital of 75 or more beds characteristic of *Type 6*, it is theorized that the presence of a 75 bed general hospital also indicates the availability of all other services included in the less complex types of medical service centers. This patterning is frequently used in distribution studies and is suggested by Louis Guttman.[1]

Using data from directories of professional societies[2] and the hospital directory compiled by the Missouri Division of Health,[3] medical ser-

The differentiation of medical services and location of different types of centers with respect to each other strongly suggest a specialization and coordination of medical services that is characteristic of the medical profession itself. This is one conclusion made by the authors in the final article of a series of three on the distribution of health services in Missouri.* Doctors Baker and Bishop are Associate Professors in the Department of Community Health and Medical Practice, University of Missouri School of Medicine. Doctor Baker also heads the preceptorship program for medical students. Doctor Hobbs is Associate Chairman of the Department of Rural Sociology, University of Missouri College of Agriculture. Doctor Hassinger holds a double appointment as Associate Professor in both departments. This study is supported in part by USPHS Grant CH-00252-01. Contribution from the Missouri Agricultural Experiment Station: Journal Series No. 5126.

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* The first two articles in this series, "I. Doctors of Medicine and Osteopathy" and "II. Distribution Changes of Doctors of Medicine and Osteopathy," appeared in the October, 1967 and November, 1967 issues of MISSOURI MEDICINE.

vices were determined for each of the 777 incorporated towns in Missouri outside the four standard metropolitan areas. The four metropolitan areas (including Buchanan, Clay, Greene, Jackson, Jefferson, St. Charles, St. Louis counties and St. Louis City) were excluded from the analysis since they are distinctive in both the type and complexity of available medical services. For their inclusion in the analysis, more discriminative criteria would be needed since the metropolitan areas include more comprehensive services than those utilized as criteria for the seven level typology.

Number of Medical Service Centers

Excluding the metropolitan areas, the most frequent type of medical service center in the state is *Type 0*. There are 438 incorporated places with none of the services used as criteria for the other six types of medical service centers. Most of these have a comparatively small population. The next most common type of medical service center is *Type 1* with one or more physicians, but none of the other listed services. There are 118 incorporated towns meeting the criteria of *Type 1*. One-hundred-and-twelve incorporated towns were included in *Type 2*. These have a physician and a dentist, but no other professional services as defined by the criteria. Nineteen incorporated places have a dentist but no physician. This constitutes an anomaly in the pattern, because we had hypothesized the availability of medical services prior to dental services. However, the majority of the centers having a dentist and no physician lost a physician between 1950 and 1965.

As professional health services become more complex, the number of incorporated centers offering them become fewer. Seventy-six centers outside the metropolitan areas have a small general hospital, *Type 3;* 55 have a full-time M.D. specialist, *Type 4;* 29 have one or more board certified M.D.'s practicing his specialty, *Type 5;* 18 incorporated places have a general hospital of 75 or more beds, *Type 6*.

This pattern of medical services by Type is shown in Table 1. When observed as a whole, the regularity of the pattern is noticeable. If an incorporated center has a large hospital, very likely it will have all the other categories of services. If there is a small general hospital, a physician and a dentist are likely to be present. There are some irregularities in the pattern; for example, two towns with a hospital had no resident physician and four towns with a hospital had no dentist.

Distribution of Medical Service Centers

These patterns of medical service centers may be analyzed spatially by mapping the location

TABLE 1

The Pattern of Professional Health Services
in Incorporated Places in Non-Metropolitan Missouri

Type of Center	*Number of Centers*	*Physician (MD or DO)*	*Dentist*	*General Hosp. 10 Beds or More*	*Full-Time Spec. (MD)*	*Full-Time Spec.-Brd. Approved*	*General Hosp. 75 Beds or More*
0	*438*	—	—	—	—	—	—
1	*118*	X	—	—	—	—	—
2	*112*	X	X	—	—	—	—
	19	—	X	—	—	—	—
3	29	X	X	X	—	—	—
	1	—	X	X	—	—	—
	1	—	—	X	—	—	—
	2	X	—	X	—	—	—
4	*14*	X	X	X	X	—	—
	6	X	X	—	X	—	—
	1	X	—	X	X	—	—
	3	X	—	—	X	—	—
5	*10*	X	X	X	X	X	—
	4	X	X	—	X	X	—
	1	X	—	—	X	X	—
6	*14*	X	X	X	X	X	X
	2	X	X	X	X	—	X
	2	X	X	X	—	—	X

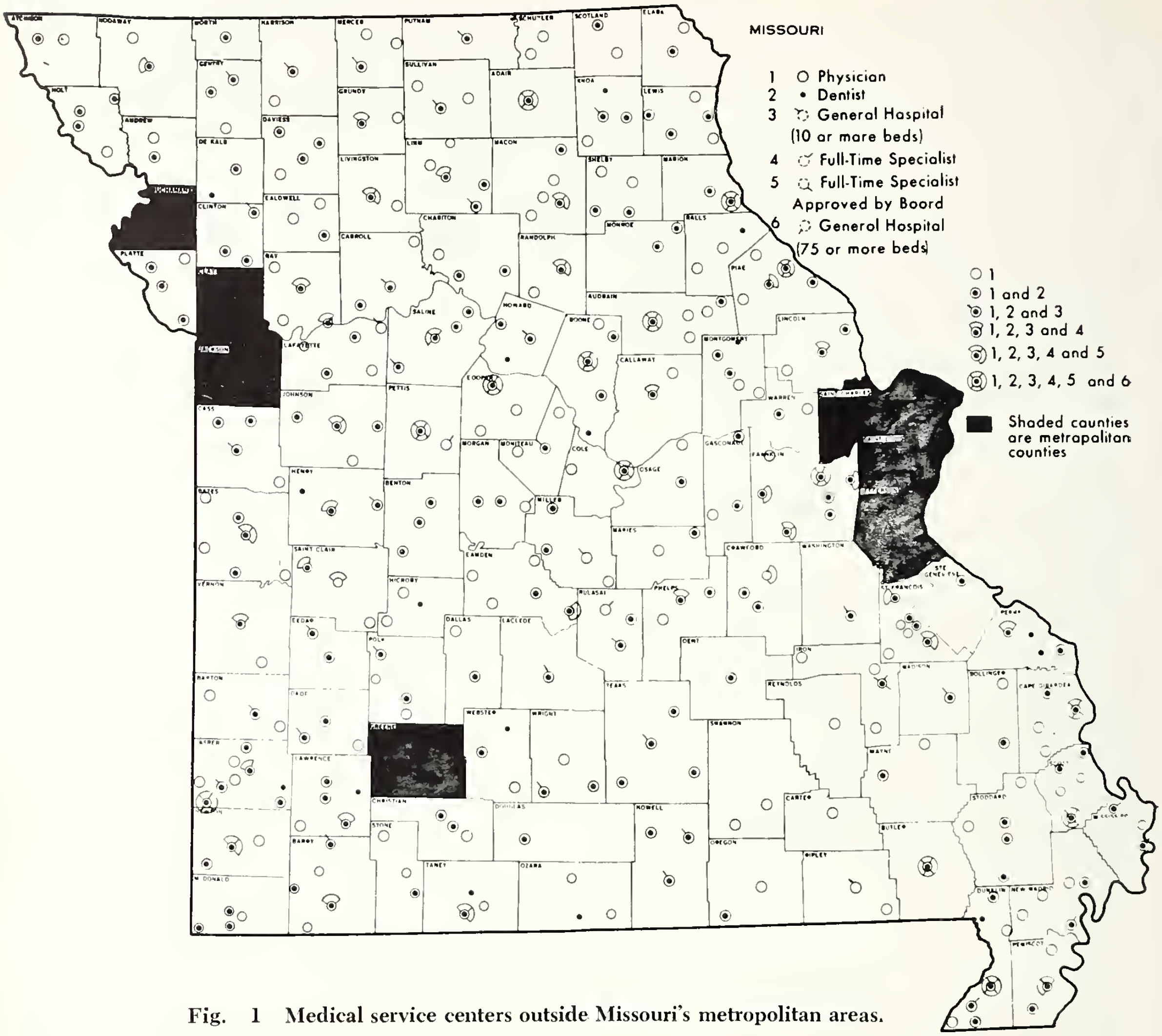
MISSOURI
1 ○ Physician
2 • Dentist
3 General Hospital (10 or more beds)
4 Full-Time Specialist
5 Full-Time Specialist Approved by Board
6 General Hospital (75 or more beds)
○ 1
⊙ 1 and 2
1, 2 and 3
1, 2, 3 and 4
1, 2, 3, 4 and 5
1, 2, 3, 4, 5 and 6
Shaded counties are metropolitan counties

Fig. 1 Medical service centers outside Missouri's metropolitan areas.

of the various type of centers. Fig. 1 depicts a map of the centers outside the metropolitan areas. *Type 6* medical service centers are not uniformly distributed throughout the state. Of the 14 centers classified as *Type 6,* seven are located in the central part of the state on an approximate line between St. Louis and Kansas City. There is a *Type 6* center in each of the following contiguous counties: Pettis (Sedalia), Cooper (Boonville), Cole (Jefferson City), Boone (Columbia) and Audrain (Mexico). In addition, several other centers in the central part of the state, Randolph County (Moberly) and Saline County (Marshall), include service centers classified as *Type 5.*

Pike County (Louisiana) and Franklin County (Washington) also are located along this line and are the only examples of *Type 6* centers found close to metropolitan areas.

Relatively sizable areas of the state are notably lacking in *Type 6* centers. This particularly is evident in the northwest and south central parts of the state. The area in South Central Missouri bounded by a line running from Springfield to Jefferson City to Poplar Bluff contains virtually no medical specialists and no general hospitals. In this whole south central area, medical service centers tend to be of the less complex level specified as *Types 1 and 2.* In the three contiguous counties of Carter, Reynolds and Shannon, there is no center that has more than a physician as available services. These counties are only extreme examples of what appear to be rather limited services in this south central area. However, it should be remembered that this is Missouri's most sparsely populated area.

In the southwestern area extending from Greene County (Springfield) to Joplin in Jasper

County, both *Type 6* service centers, medical service centers are more closely spaced and the level of service available is more complex.

POPULATION DENSITY, MEDIAN FAMILY INCOME AS VARIABLES

The effect of county population density and county median family income on the level of complexity of service was considered. In order to examine this relationship, a composite score of complexity of medical service centers in each county was made. In almost all cases, however, this score was the same as that of the most complex center in the county. The complexity of services in the counties and the density of population of the counties were correlated at the level, r = .66. This can be interpreted to mean that about 44% of the variability in complexity of service among the non-metropolitan counties can be accounted for by differences in population density.

Median family income of the counties correlated with complexity of medical service at the level, r = .49. In itself, income accounted for about 23% of the variability in complexity of services. However, because county median family income and county density of population were quite highly correlated, r = .57, the addition of income to population density did not explain a great deal more of the variation in complexity of service than density of population alone.

SUMMARY

The analysis has demonstrated a differential level of medical services among Missouri towns and cities. More important, however, it indicates a considerable regularity in the services available in centers. This makes it possible to identify types of centers on the basis of level of service.

The differentiation of medical services and location of different types of centers with respect to each other strongly suggests a specialization and coordination of medical services that is characteristic of the medical profession itself. Just as medical practitioners are dependent upon each other in providing the complex and specialized services of the profession, medical service centers appear to be interdependent as locations for delivering the services.

Further research is needed to determine the relationship between socio-economic groupings, the level of service in a center and the use of services by people in the center.

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The U. S. Public Health Service's Bureau of Health Manpower (BHM) has announced that a new publication, "Curriculum Guides for Re-Training in Medical Technology," is now available for those who instruct technologists who have been inactive in the field.

The 312-page publication covers 12 subjects: basic science; examination of urine, semen, and gastro-intestinal contents; hematology; coagulation; blood banking and immunohematology; microbiology; parasitology; immunology-serology; instrumentation; chemistry; radioisotopes; and laboratory administration and supervision. Each section includes references for suggested student reading, and most sections include suggested questions for evaluating student proficiency.

"Curriculum Guides for Re-Training in Medical Technology" may be obtained from the National Committee for Careers in Medical Technology, 1501 New Hampshire Avenue, N.W., Washington, D. C. 20036, at $2.75 a copy to cover production and mailing costs.

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An Examination for Medical Students: 105 Years Ago

Only about a century ago, the preventable disease, smallpox, killed 758 persons in Philadelphia in an ordinary year, 1862. Few persons recognized in such death tolls a challenge to practitioners of medicine. When a physician of Philadelphia pleaded for a new and stronger effort to achieve universal vaccination, he admitted that most informed persons considered this goal to be a "Utopian speculation" not to be taken seriously. Scarlet fever and pneumonia also were major causes of death and in 1866, cholera started a sweep across the country eventually killing more than 40,000 persons.

In the summer of 1862, the newly organized medical department of the Federal Army called for more surgeons to cope with "the highest casualty rate in the history of modern warfare." As usual, disease, not enemy action, accounted for most of the casualties in the war. During the hot, wet summer of 1862, yellow fever and gastroenteritis (types unknown) were epidemic along the Gulf states, killing the newly mobilized troops before they could be trained for the new type of warfare. The unique features of the war included trenches, military railroads, armored naval vessels, airborne observers, rapid fire rifles and national conscription.

Despite the unprecedented progress that has been made in the world of medicine, an examination of 105 years ago brings to mind parallels to current medical problems and suggests that history may be repeating itself in regard to major national social, political and economic problems. Unfortunately, the professors' actual answers to the questions are unavailable. The examination, however, allows the physician to compare his own educational climate with that of 1862. Doctor Anderson is Assistant Professor, Division of Dermatology, University of Missouri Medical Center.

In New York, editor Horace Greeley wrote to President Abraham Lincoln stating his belief that emancipation of the slaves was the chief issue of the war. He urged the President to heed this "most humanitarian" goal.

In England, tempers rose in Parliament. The Union blockade of southern U. S. ports was causing unemployment and loss of profits in those British industries which depended on raw cotton imports. Parliament urged intervention in the form of economic, naval or even active military aid to the Confederacy. In Germany, Dr. Rudolf Virchow, already famous as a radical politician and leader in the new thought in medicine, led a dangerous revolutionary battle for free democratic government against the powerful, entrenched autocratic government of Prime Minister Bismarck.

It was a time of national concern over war, destructive new weapons, foreign intervention, economic upsets, revolutions and worldwide political disturbances. At the present time, we, in 1967, are "closely related" to these worried people of a century ago.

In the midst of international chaos and being mostly unconcerned, the medical student of 1862 burned midnight oil (literally) and studied such new texts as Gray's Anatomy (second edition, new, at $6.25).

Especially in the winter, the student stomached a poor diet. No canned or frozen fruits or vegetables were available; fresh meat was scarce. The present-day, plain hospital diet would have seemed festive to the medical student of a century ago. He lived in small cold lodgings, carried his own wood or coal and tended his own fire. Reputedly, the air of the city was unhealthy, especially around the hospital, which explained why medical students had so much illness (tuberculosis, dysentery, typhoid fever, venereal disease, etc.), but "Pure Air-Pure Water" was not yet a political issue.

Despite the dangers of the diseases and the dissolute and disorderly life which medical students were said to live, enrollments were full. The senior medical students at Harvard on the average (class of 1861) were larger physically (5 ft 8 in tall, weighed 140 pounds) were older (22 years) and more carefully selected (it was claimed) than students of previous years. Someone said that medical school was becoming harder all the time.

The examination printed here was taken by medical students at St. Andrew's University in the fall of 1862 and is typical of examinations at the better schools of the day. Following the written examination, the students appeared before a panel of professors for an "oral ordeal."

You are invited to determine if you could have graduated with the class of 1862.

MEDICAL EXAMINATION PAPERS
1862
First Examination

To be translated into English: "Sanus homo, qui et bene valet, et suae spontis est, nullis obligare se legibus debet; ac neque medico, neque iatralipta egere. Hunc oportet varium habere vitae genus: modo ruri esse, modo in urbe, saepiusque in argo; navigare, venari, quiescere interdum, sed frequentius se exercere: siquidem ignavia corpus habetat, labor firmat; illa maturam senectutem, hic longam adolescentiam reddit. Prodest etiam interdum balneo, interdum aquis frigidis uti; modo ungi, modo id ipsum negligere; nullum cibi genus fugere, quo populus utatur; interdum in convictu esse, interdum ab eo se retrahere; modo plus justo, modo non amplius assumere; bis die potius, quam semel cibum capere, et semper quam plurimum, dummodo hunc concoquat. Sed ut hujus generis exercitationes cibique necessarri sunt; sic athletici supervacui. Nam et intermissus, propter civiles aliquas necessitates, ordo exercitationis corpus affligit; et ea corpora, quae more eorum repleta sunt, celerrime et senescunt, et aegrotant."

Give the derivations or primary meanings of the following words: Achromatism, barometer, cephalopoda, dimorphism, eremacausis, haemadynamometer, isomerism, microscope, selenium, xanthine.

Chemistry

1. What is the composition of ammonia? How is it prepared? What are its properties and tests?
2. Mention some of the poisonous gases, specifying the class of poisons to which each belongs.
3. What is the composition of bone, of milk and of blood?

Materia Medica

1. Describe the different modes of operation of purgatives and arrange the most important purgatives according to their respective modes of action.
2. What preparations of arsenic occur in the Pharmacopoeia and what are their respective average doses? Describe the principal therapeutic uses of these preparations. What are the symptoms that would lead you to suspect that a patient was suffering from chronic arsenical poisoning and how would you proceed in your search for traces of arsenic in the matters he had vomited or in his urine?
3. What are the principal uses of valerian, belladonna, ergot of rye, digitalis and colchicum? Mention the average doses in which you would prescribe their different preparations.
4. Write Latin prescriptions, without using symbols or abbreviations (1) for a diaphoretic draught, (2) for a cough mixture suitable to a case of hysteria.

Anatomy and Physiology

1. Describe the muscles which elevate and depress the larynx.
2. Describe the course and relations of the subclavian artery on the right and on the left side. At what point can compression be applied to this artery? In what cases may you be required to tie this vessel and at what part of its course can a ligature be most readily applied?
3. What veins combine to form the portal system and from what parts do they respectively convey the blood? Describe the course of the portal vein, and the mode in which it terminates.
4. Describe the sounds which accompany the heart's action. What are the causes of these sounds? What do you mean by a bellows sound and in what morbid conditions may this sound accompany or replace either of the normal sounds?
5. What is the ordinary temperature of the interior of the human body and to what extent is it modified by climate? Can a person bear a high temperature best in a dry or in a moist atmosphere? Explain the grounds on which your opinion is formed.

Practice of Medicine

N.B. In answering the practical questions, the examiners require every candidate to specify the mode of treatment which he is in the habit of adopting and the doses of the medicines which he prescribes.

1. What are the characters of the urinary sediments containing uric acid, urates, phosphates and oxalate of lime? Select any one of these for more particular remarks in respect to pathology and treatment.
2. Contrast chorea with the following nervous disorders—viz., infantile convulsions, epilepsy, tetanus, shaking palsy, muscular cramps. Mention what you know of chorea in its relations to age and sex and describe very briefly and generally its prognosis and treatment.
3. Describe a typical case of typhus fever ending in the third week, with reference to the order and time of occurrence of the principal phenomena.

4. Give a brief account of the causes and treatment of haemoptysis.
5. A man, aged 25, affected with signs of tubercle in the lungs, is seized with pain in the left ear, followed by a discharge of pus and deafness. These symptoms are partially relieved by blistering behind the affected ear with constitutional tonic treatment. After a time, however, the left eyelid suddenly becomes incapable of closing, the features are distorted in speaking, the mouth and nostril are motionless on the left side, the tongue is protruded exactly in the middle line, sensation is unimpaired, consciousness is unaffected and there is no paralysis of the limbs. Explain more fully these phenomena which continued in this case unchanged til the death of the patient from phthisis.

Surgery

1. Describe how tissues are destroyed by the processes of sloughing and ulceration, respectively.
2. What are the different forms of dislocation of the elbow joint and how would you treat each variety.
3. What is ranula and how do you treat it?
4. A patient has a fluctuating, non-pulsating tumour at the upper third of the thigh, in front. It was first noticed two or three months ago and has gradually attained its present size—that of an orange. For some time, patient has complained of weakness at the lower part of the back where there is a slight projection of the spine. What is the disease? Explain its origin and progress. What treatment would you adopt?

Midwifery

1. What are the signs of pregnancy available after it has continued six months? Give particularly the application of auscultation in such circumstances.
2. Describe the treatment of a case of placenta previa near the full time, the bleeding being considerable and the mouth of the womb well dilated.
3. What are the ordinary causes of vesico-vaginal fistula and what is its treatment?
4. A woman, aged 40, has had for more than a year a large swelling in the hypogastrium, gradually increasing. It is elastic, everywhere dull on percussion, has distinct fluctation in parts, but not from side to side of the belly; and its shape is not globular, but nearly so. Menstruation is regular as usual. What is probably her disease and how would you manage the case?

Pathology

1. Name and describe briefly and indicate site or distribution of the minute glands, which compose or are found in the mucous membrane of the alimentary canal.
2. Describe the anatomical signs of true dysentery as seen after death; mention the circumstances under which the typical forms or signs of dysentery are liable to be modified or changed and the lesions complicated or rendered more dangerous to life.
3. Describe the anatomical signs of typhoid fever, as seen after death; describe the various conditions of lesions in which the small intestine may be found and state the probable modes by which the morbid growth or deposit in and about the glands is eliminated.
4. Enumerate the circumstances under which death may ensue in cases of enteric (typhoid) fever.
5. During what states of the intestinal lesion may perforation of the gut or peritonitis be most likely to happen in cases of typhoid fever?
6. State the age at which cases of enteric (typhoid) fever are most frequent. (Three hours allowed.)

Hygiene

1. Describe the physical properties of, and examine under the microscope, two samples of milk.
2. Examine for acidity and describe the physical properties of two samples of beer.
3. Determine the amount of chloride of sodium in a given weight of salt butter.
4. Examine microscopically two specimens of adulterated and pure coffee and chicory. (Four hours allowed.)

Head injuries are the most frequent cause of death in a motorcycle accident. Most serious non-fatal injuries, however, involve the legs and lower arms. These facts are brought out in a new pamphlet on the proper attire and equipment for the motorcyclist who wants to avoid injuries to himself in an accident. The pamphlet is named "Your Motorcycling Fun and Personal Protection." Single copies of (PHS Publication No. 1632) are available from Public Inquiry, National Center for Urban and Industrial Health, 222 East Central Parkway, Cincinnati, Ohio 45202. It may be purchased in quantity from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402 at 5 cents a copy.

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Chicago Medical Society

February 25-28, 1968

Palmer House, Chicago

THIS CONFERENCE WILL BE OF INTEREST TO ALL PHYSICIANS. The program is presented by leaders of medical thought in all fields of medical activity. It is designed to interest the generalist and specialist alike. *THE OUTSTANDING LECTURE PROGRAM IS PLANNED TO KEEP US ABREAST OF SCIENTIFIC DEVELOPMENTS IN MEDICINE.* In addition, certain sessions will take cognizance of Socioeconomic developments, all affecting the practice of medicine. All physicians, regardless of their field of interest, will find this program to be informative and useful.

For program or registration information address:

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Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Northwest Missouri Medical Society—second Tuesday of each month.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday of each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

The MSMA Public Service Committee introduced a new "first" in 1967 that may prove to be a hallmark in the history of our state medical organization—a "*turning* point" in our approach to 'our membership, organization and effectiveness as the representative of physicians in Missouri.

The meeting brought together guest speakers and MSMA officers-leaders to learn from each other. Those attending emerged with new awareness and understanding of the role of the physician in Missouri regarding the recently implemented Title XIX program in Missouri and the part the Medical Economics Contract Committee has played in its development. We were told by legislators what had been wrong with the relationship between the profession and the legislators. We received suggestions from them for improving our image, so far as the lawmakers are concerned. We learned more about the relationship of the AMA to state and county medical society functions and the lines of communication available to every physician (which are so seldom utilized).

It was reemphasized that organized medicine is a federation and the *individual physician* is the *root* of this federation. It was pointed out how vitally important it is for the individual physician to budget part of his hard-earned time for organized medicine activities.

These messages were delivered by the following distinguished speakers: Dr. Milford O. Rouse, president of AMA; Mr. Proctor Carter, Director of the Missouri Division of Welfare and state officer for the Title XIX program; Dr. Herbert C. Wiegand, our hard-working chairman of the Medical Economics Contract Committee; Mr. Art Seeds, representative from AMA; Dr. John I. Matthews, our Legislative Committee chairman; State Senator A Basey Vanlandingham (Dem.); State Representative Ronald M. Belt (Rep.); Dr. Arthur Neilson, chairman of our AMA delegation; Dr. James Brown of the Greene County Medical Society; Mr. Raymond McIntyre, Executive Secretary of the MSMA; Dr. David Kerr, our President-elect; and me.

Hector W. Benoit, Jr., M.D.

The small discussion groups discussed many varied problems and the monitor of each group reported to the entire conference on their recommendations. Let's explore some of them:

- It was agreed that this conference should be an annual affair.
- The county and state organizations should encourage young men entering the field of medicine to become involved with and committed to their professional organizations.
- It was felt that increased opportunities should be provided for representatives of organized medicine to make presentations to senior and junior medical students, pointing out the role of organized medicine and the need for them to become involved.
- It was suggested that the meeting was so valuable that the nominating committees in all county societies require a member to agree to attend this annual conference, if elected, before his name is placed in nomination for a county office.
- An interesting avenue of communication was suggested in that a tear-out sheet be inserted in both the MSMA and AMA journals. The sheet would propose questions on various current topics of a controversial nature. The physician could answer easily and promptly. This would give every member opportunities to consider a "hot" issue and express his views. The questionnaire would provide the parent organization with the membership opinions to guide its deliberations. It would bring to the physician's attention issues he might otherwise overlook.

I believe that the MSMA Officers' Conference was a highly educational session. More physicians were made aware of the various complexities of organized medicine and what organized medicine at the national, state and county levels can do for the individual physician and, in turn, what he can do for himself through his professional organizations.

I wish to thank Dr. Joseph Fisher, chairman of the Public Service Committee, and our staff in the MSMA office for presenting a splendid, two-day program from which a wealth of valuable information was derived. I hope it will be disseminated by those in attendance to all their constituents.

Woman's Auxiliary

The beginning of a new year compels one to review and evaluate the past month and to look forward with new energy and great expectations to everything being possible in the year ahead. Such meditation and forecasting is with your State Auxiliary President now.

Mrs. John M. Williams

Many things came to pass in the year of State Auxiliary, 1967. For the first time in 30 years, the State Auxiliary dues were raised —from $1.00 to $2.00 per member. This should broaden the scope and depth of state work and organization considerably. National Auxiliary programs were utilized by Missouri county auxiliaries with excellent results. On the other hand, our State Health Careers Chairman, working with the Missouri State Medical Association Committee on Nursing and Paramedical Personnel, is developing a program on Health Careers that has received commendation and interest from the National Auxiliary. There has been a growing interest and cooperation between the MSMA and Auxiliary Legislation Committees which we are hoping will be reflected in the county committees. The American Medical Association President, Dr. M. O. Rouse, has supported and encouraged auxiliary membership and work wholeheartedly. These are only a few of the developments of the past months that make the months ahead appear so full of promise and vitality.

We would resolve in 1968 to:

1. Work for an ever-increasing auxiliary membership.
2. Work more effectively at promoting programs of the Missouri State Medical Association, as needed.
3. Remember always our responsibility and good fortune to be sharing the lives of men dedicated to the service of mankind.

A HAPPY NEW YEAR TO ALL!

WHAT DOES GALVANIC SKIN RESISTANCE DEMONSTRATE ABOUT THE EFFECT OF VALIUM (diazepam)?

Galvanic skin resistance…one measure of the Valium (diazepam) effect in reducing the somatic response to acute stress[1,2]

The subjective value of Valium (diazepam) has been proved by many clinical and empirical evaluations. Now, also objective criteria such as used in other areas of scientific research have demonstrated the effectiveness of Valium (diazepam) in reducing certain somatic responses to acute stress.

Devised as a research tool in psychosomatic medicine, this interesting method records respiratory excursions, galvanic skin resistance, cardiac activity and finger pulse volume as physical responses to stress. These autonomic nervous system responses to a standardized stressor—a film dealing with life-threatening incidents—are continuously monitored on the polygraph. This gives a graphic representation of changes which the body may undergo in reacting to stress. The application of modern statistical analysis to these graphs provides a yardstick by which the calming effect of Valium (diazepam) can be measured quantitatively.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with a history of convulsive disorders, glaucoma or known hypersensitivity to drug.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage—*Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See *Precautions.*)

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.

Roche Laboratories, Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

References: 1. Selesnick, S. T., and Clemens, T. L.: From research film "Motion Picture Films in Psychosomatic Research," available from Roche Laboratories. **2.** Clemens, T. L., and Selesnick, S. T.: *Dis. Nerv. System, 28*:98, 1967.

ROCHE

VALIUM®
(diazepam) Roche®

useful for somatic symptoms of psychic tension

EDITORIALS

MINORITIES AND MAJORITIES

"We see time's furrows on another's brow, And death intrenched, preparing his assault; How few themselves in that just mirror see."—Edward Young (1683-1765)

What do you see when you look in the mirror?

The economist sees the physician as a contributor to inflation, through his willful and capricious use of an open-ended fee schedule. The bureaucrat sees the physician as an irresponsible individual who is too stupid to read the label on a bottle of pills. The social planner sees the physician as a purveyor of medical services, too little and too late. The patient sees the physician as an heroic figure who will solve the problem when the Lord himself couldn't do it. His wife sees the physician as, well, never-no-mind.

I happen to believe that none of the above is true. If this be so, how do these images get such good circulation?

Is it possible that we have a dissident minority group, who are capricious and arbitrary about their fees? Do we let these people speak for the majority of us (for they usually are quite vocal) and in that way contribute to what Madison Avenue speaks of as a bad public image?

Do we get so panic-stricken at the thought of government interference that we become ineffective and desert the field of battle without a fight? If we do this (and sometimes we do), the field is left open for the social planners who then complain that they have no cooperation from the physicians in the planning of medical services.

Do we have a dissident minority and a complacent majority who are content to let the autocrats of the Medical Society fight the battles? At times I am forced to this conclusion because, in my experience the Medical Society has never done anything right yet.

If we let a dissident minority speak for us and never attempt to set the record straight, we shall continue to be the victims of a bad public image. If we continue to desert the field of battle while the social planners rush head-long into the void, we shall continue to suffer both in and out of legislative halls.

What we need is a reappraisal, a new look at our stand and how we got there. In the process of doing this, we also shall have to take a look at ourselves, attempting to see us the way others see us. This, of course, is the most difficult feat of all, since, as Marion Hargrove has said, "When junior talks of a yard bird, he is always speaking about somebody else."

What do you see when you look in the mirror?

George J. Lytton, M.D.
Greater Kansas City Medical Bulletin

SEX

The role of the physician changes from time to time and is dependent upon many variables. We are in a most unique position, for although our job is to relieve suffering and stave off death, we can at best only temporize, since all of our patients are going to die someday of something. We are one of the few callings who are in business to do ourselves out of business. Our greatest accomplishments really have been in the field of prevention, of keeping a disease, a disability or a dysfunction from occurring in the first place. It seems odd, then, that we, the preventers, the healers, would do so little about a preventable phenomenon which kills about 60,000 men, women and children a year and injures about 4.5 million.

What really is our responsibility and what are we doing about it? It would appear that our responsibility is great as we see the horrible results and know that practically all of these occurrences are preventable. Unfortunately, we do not seem to be doing too much about seeing to it that they do not take place.

Modern Medicine published a series of articles this spring about "The Physicians' Role in Highway Safety" and the Travelers Insurance companies have just sent out a booklet called "Was It Sudden?" They both point out ways we can help to reduce the accident rate with its concomitant pain and anguish. They suggest that simply to blame the car, the driver, alcohol, poor roads or any one single cause is far from a scientific approach. The causes of accidents are many and work in a "system" or chain reaction to cause a tragic or happy ending to a driving experience. There is a car in more or less good condition; there are you, tired, awake, worried or relaxed, on a road well-lighted or dark, wet or dry; and then add or take away any one of another thousand or more factors and you may have some leads as to the causes of accidents.

What then can you and I do about applying good scientific methods to accident prevention? Some of the suggestions we can follow to help prevent accidents ourselves include always, and in all ways, driving defensively, maintaining our cars in the best possible shape and insisting upon owning all optional safety devices, including the proper tires at the proper inflation for your car. Limit your driving when tired, emotionally upset or drinking. Adjust your driving and speed to current conditions of highway, weather, traffic or other conditions. Don't rush, keep your temper and, personally, in your own community, support better law enforcement, highway improvement, driver education in the schools and improved driver licensing. Be firm about your patient's medical disability which should keep him or her from driving a car.

Now, how can we help prevent injury in the case of the so-called "second collision," that is the passenger colliding with the inside of the car? First and foremost, *use* the seat belt and shoulder harness. Insist upon buying that car and driving that car with the greatest number of safety features, such as padded dash, collapsible steering wheel and head supports, and always remember, the higher the speed, the greater the severity of the accident.

There are misconceptions in the minds of some people which we must help put aright. For example, some have suggested that a seat belt would prove fatal in case of fire or submerging. The facts are that the chances of survival are greatly increased with the use of the seat belt as the passenger has been protected from the second collision and is, therefore, much more likely to be conscious and able to escape. In every discussion of safety, there is usually one person who knows of someone who was thrown out of a car and suffered only minimal injuries. For every one of those, we can show you ten whose lives were saved by being belted in. And so on and on with feeble excuses not to face the obvious fact that you and your family can be killed, or maimed, in your own car today. If you carry insurance on your car for fear it might be damaged, take out some safety insurance with yourself for fear you and yours might be damaged. There is a shortage of doctors. Please don't be afraid to be afraid.

Oh, yes, if you have wondered why this editorial was entitled "Sex," be honest, now—would you have read it at all if it had been called "Automotive Safety?"

WILLIAM K. KELLER, M.D.
Chairman, KMA Committee on Highway Safety
The Journal of the Kentucky Medical Association

INAUGURAL ADDRESS, 19—

I am honored to have been nominated for President of the United States by my party and elected by the voters to that high office.

Unfortunately, in a democracy, it is necessary for candidates to attempt an appeal (at one and the same time) to all the pressure groups in the nation in order to be elected. Obviously, that is what my platform was. Realistically, I cannot possibly please all of the pressure groups who supported me, because their interests are in many cases opposite to each other. Therefore, I ask you to understand that I am not in any way bound by my platform, and I hereby repudiate my platform, and I ask that you just forget that I ever had a platform.

I announce here and now that I will not be a candidate for re-election four years from now, and I do that for two reasons:

1) So that my party may develop another to become a candidate for President of the United States.

2) So that I can conduct the affairs of my office without regard to its effect on my political future, and so that I can be the Executive Officer of the United States and not be the errand boy of a political party, the tool of a political boss or the slave of a political ambition.

During my term in office, I expect to be the Executive Officer of the United States. I shall expect the Congress to again assume its rightful place in our government and become, as it should, the law givers. I shall expect the Supreme Court to interpret the laws written and approved by Congress when the matter of interpretation becomes their duty.

Beginning now, the sedition and treason laws of our country will be rigidly enforced regardless of creed—color—or organization represented, and I hereby guarantee to you that no person convicted of sedition or treason will ever be pardoned by me. Likewise, all other federal laws will be enforced to the letter of the law or, if it is found that they are in error or unenforceable, I shall insist that they be removed from the statute books.

I shall insist that those who use the United States mail services pay in full the cost of such services. The payment of postal deficits by the total population—whether mail users or not—for the benefit of a few commercial users is unfair and discriminates against the non-mailer. This situation must be changed and brought into line with the theory that those who use a service must pay the cost of that service.

No department of the government, regardless of its size or the extent of its activity, shall write regulations and enforce them as though they are laws. Regulations written by departments of the government must be deemed advisory and not enforceable as law. Remember, Congress is the law writing branch of our government.

(Continued on page 66A)

in moderate hypertension and poorly controlled mild hypertension

(when diuretics or sedatives are inadequate, for example)

Editorials (Cont'd)

Our many friends in foreign countries will continue to receive food, arms, money and leadership, but only in return for some evidence—tangible or intangible—of their appreciation of our taxpayers contributing to their continued existence. This evidence may be in the form of a reduced birth rate, free land bases for our military installations, free harbors for our navy or a continuing favorable press with total control of minority groups within their borders who show discourtesy to our officials or our citizens visiting in their country.

So far as the various states of the nation are concerned, I urge that they immediately begin efforts to become self-sufficient and self-reliant. If, during my term of office, any state becomes more dependent on the federal government than the most dependent state is today, I shall urge the Congress to make provisions for that state to become Federal State Number One. Federal State Number One then shall give up all right of self-determination—shall cease to elect officers—collect taxes—provide for the local general welfare or police the area. All governmental affairs of Federal State Number One shall be directed by an administrator appointed by me, who shall, in turn, appoint all other needed officials—levy—and collect taxes—write laws—and ordinances and provide for the security and general welfare of Federal State Number One as he thinks best.

So far as labor is concerned, labor unions and all other workers shall not be any more or any less imposed upon or protected by the law than will be agriculture, industry, the arts or the professions.

Taxes will be increased as rapidly as the urge for free goods and services by the citizens warrant. I assure you if the citizens of this country want to pay 60-cents or even 80-cents out of every earned dollar to the federal government for something—believed to be free in return—I can assist very quickly in arranging for the increase.

With these thoughts in mind, I now assume the office of President of the United States. With these thoughts *in your mind* you will do a great deal in determining just how I conduct myself in office—just how we go along together, for better (I hope) or worse, in the four years of change beginning today.

St. Louis County Medical Bulletin

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

when he just can't sleep

Tuinal®

One-Half Sodium Amobarbital and
One-Half Sodium Secobarbital
supplied in ¾, 1½, and 3-grain Pulvules®

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal is indicated for prompt and moderately long-acting hypnosis. It is not suitable for continuous daytime sedation.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Overdosage: C.N.S. depression. Symptoms—Depression of respiration and of superficial and deep reflexes, slight constriction of the pupils (in severe poisoning, dilation), decreased urine formation, lowered body temperature, coma. Treatment—Symptomatic and supportive (gastric lavage; intravenous fluids; maintenance of blood pressure, body temperature, and adequate respiration). Dialysis may speed removal of barbiturates from body fluids.

Dosage: 50-200 mg. ($^{3}/_{4}$-3 grains) at bedtime.

[031767]

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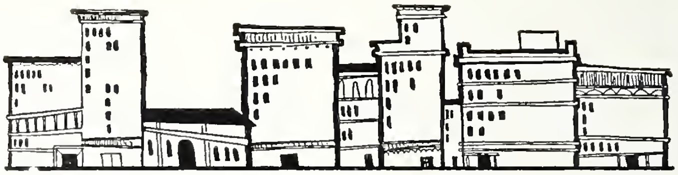


WASHINGTON UNIVERSITY

Librarian Dr. Estelle Brodman and Professor of Medicine Dr. Carl G. Harford share the interest of the addition of the 100,000th volume to the Washington University School of Medicine Library with presidents of the classes, from left, John A. Shillinglaw, senior; J. Andy Sullivan, junior; Chauncey C. Maher, III, freshman; and David W. Scharp, sophomore.

Dr. Estelle Brodman, librarian, has announced that the Washington University School of Medicine's Library has added the 100,000th volume to its stacks.

Title of the book is *Gastric Secretion*, a report of a symposium held at the University of Alberta, edited by Drs. T. K. Shnitka, J. A. L. Gilbert and R. C. Harrison.

Participating in the ceremony which noted the event were presidents of the medical classes: John A. Shillinglaw, senior, Englewood, Colo.; J. Andy Sullivan, junior, Houston, Texas; David W. Scharp, sophomore, Columbia; and Chauncey C. Maher, III, freshman, Springfield, Ill.

Outside of Chicago, Washington University has the largest medical library in the Midwest.

ST. LOUIS UNIVERSITY

The appointment of 41 new faculty members has been announced by the St. Louis University School of Medicine.

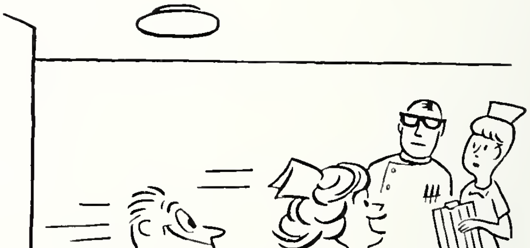
Named to the rank of associate professor and their specialties were: Drs. John J. Taylor, neuroanatomy in neurology and psychiatry, who holds the primary appointment of associate professor of anatomy; Jo Anne Whitaker, pediatrics; and Paul A. Young, neuroanatomy in neurology and psychiatry, who holds the primary appointment of associate professor of anatomy.

Appointed assistant professors were: Drs. Wilma Marie Haslag, S.S.M., physical therapy, who also holds the rank of assistant professor of physiology at the School of Medicine; Charles Hue-Min Tan, who holds the dual appointment of assistant professor of biochemistry and of internal medicine; Lan-Fun Li, biochemistry; and Andres J. Valdes, pathology.

Appointed assistant clinical professors were Col. Daniel C. Campbell, Jr., M.C., USAF, surgery; and Dr. Sumner Holtz, radiology.

Dr. Gary A. Storey has been appointed instructor in urology and also executive secretary of the section of Urology, Department of Surgery. Dr. William F. Melick, who remains as clinical professor of urology, served as the section secretary from 1959.

Named to the rank of instructor were: Drs. Anne E. Bannon, pediatrics; Raymond J. Beidle, pediatrics; Edwin E. Carter, orthopedic surgery;



"Oh, he's progressing just dandy, Doctor!"

Maurice J. Coyle, radiology; Robert E. Cuddihee, Jr., internal medicine; Ira Rao Dash, anesthesiology in surgery; Martha Ellert, physiology; Malcolm Tennyson Foster, Jr., internal medicine; Philip R. Gale, psychiatry; Dr. John G. Goldkamp, pediatrics; Andrew J. Gregowicz, pathology; and Raymond W. Hellweg, pediatrics. Other instructors named were Drs. Paul A. Holdener, radiology; Zubaido Khatoon, pediatrics; Marshall Juchuan Ku, pediatrics; Bernard Loitman, radiology; Vincent J. Lopicollo, Jr., pediatrics; Mary Ann Mercer, social work in neurology and psychiatry; Mary Lou Nahlik, physical therapy; Matthew L. Nickels, radiology; Maria Nunez, pediatrics; Salvatore N. Riggio, pediatrics; Herman Joseph Roodman, internal medicine; Hasan Dogan Savci, radiology; John B. Shields, radiology; John B. Summers, pediatrics; Benjamin Thysen, biochemistry in gynecology and obstetrics; Ronald P. Turgeon, pathology; Sherwin J. Wayne, orthopedic surgery; Warner J. Wimmer, pediatrics; and John H. Winter, internal medicine.

Dr. Robert H. Felix, dean, St. Louis University School of Medicine, was elected to the Executive Council of the Association of American Medical Colleges at the recent annual meeting held in New York. His term is for three years.

Dr. Francis X. Paletta, professor of clinical surgery and chairman of the section of plastic surgery at the School of Medicine, has been inaugurated president of the American Society of Plastic and Reconstructive Surgery for a one-year term. The American Society of Plastic and Reconstructive Surgery is the largest plastic surgery society in the world.

Dr. William F. Melick, clinical professor of urology at the School of Medicine has been named secretary of the South Central Section of the American Urological Association. Dr. Melick also has served as a member of the association's board of directors.

MISSOURI UNIVERSITY

Dr. Robert L. Taylor has been appointed jointly to the faculty of the University of Missouri Schools of Veterinary Medicine and Medicine as associate professor of microbiology.

Dr. Taylor holds an A.B. degree from Nebraska Wesleyan University, a M.A. from the University of Nebraska, and a Ph.D. from Duke University. He is a former chief, department of bacteriology and mycology, USA Medical Component, SEATO Medical Research Laboratory, Bangkok, Thailand. He also has been chief, medical mycology section at Walter Reed Army Institute of Research, Washington, D. C.; chief, medical mycology section, Middle American Research Unit, Ancon, Canal Zone; and chief, department of bacteriology, Medical Research and Development Unit at Fitzsimons Army Hospital, Denver.

In Memoriam

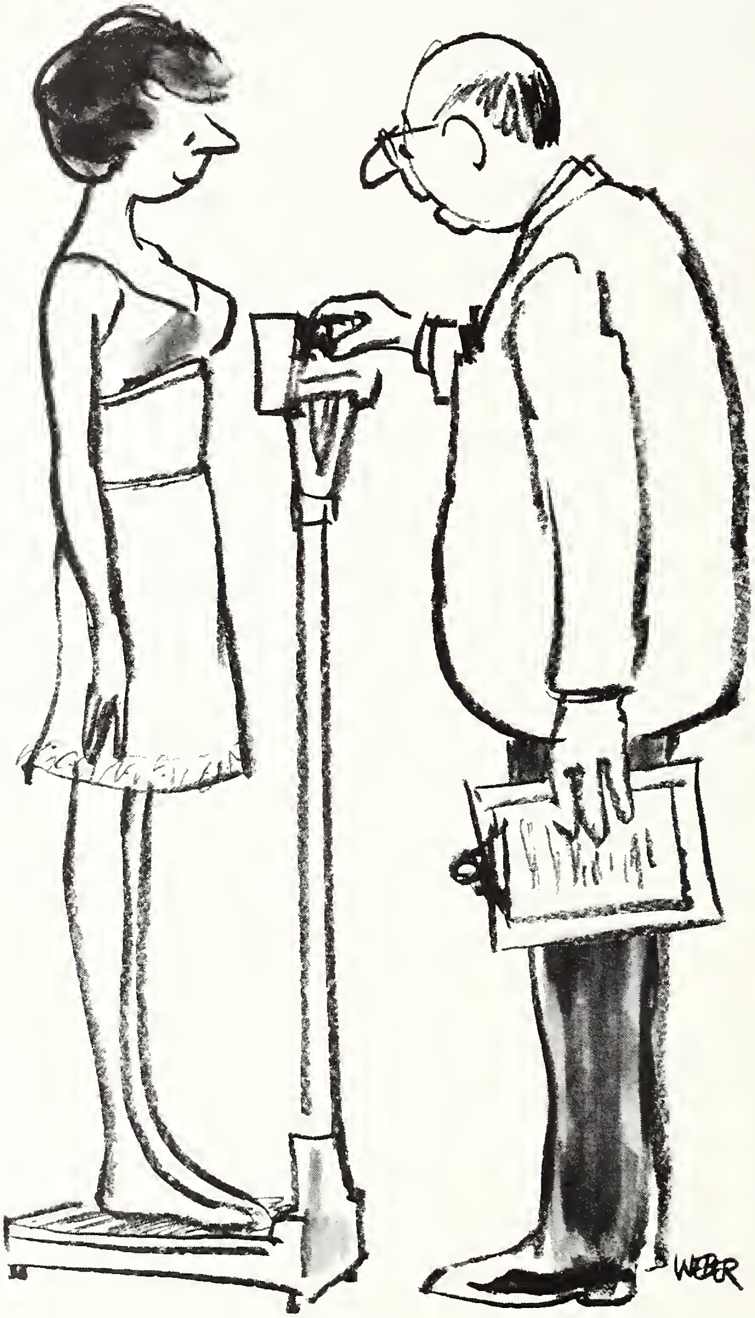
Trippe, Harrison C., M.D., Kansas City, a graduate of Washington University, 1919; member of Jackson County Medical Society; aged 78; died November 5, 1967.

Austin, Martin G., M.D., St. Louis, a graduate of St. Louis University, 1952; member of St. Louis Medical Society; aged 44; died November 21, 1967.

McKee, Joseph W., M.D., Kansas City, a graduate of Washington University, 1918; member of Jackson County Medical Society; aged 76; died November 21, 1967.

Richtarsic, S. R., M.D., St. Louis, a graduate of St. Louis University, 1931; member of St. Louis County Medical Society; aged 62; died November 21, 1967.

May, Benjamin, M.D., St. Louis, a graduate of Harvard University Medical College, 1907; member of St. Louis County Medical Society; aged 85; died November 29, 1967.



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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

Thirty-seven members and guests of the Grand River Medical Society and Auxiliary met for the regular monthly dinner meeting in Chillicothe on Nov. 9.

We were privileged to have as guests Dr. and Mrs. R. Philip Acuff of St. Joseph; Mrs. Wallace Stacey of Independence, immediate past-president of the Woman's Auxiliary; and Mrs. John Williams, president of the Woman's Auxiliary.

Doctor Acuff gave a very interesting discussion of a timely subject, "Nuclear Medicine—Radioactive Isotope Scanning." This is an exciting field of medicine which offers great potential. At the business meeting, there was a brief discussion of Title XIX and its implications in rural practice.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met in regular session in Harrisonville on Nov. 9. Total attendance of members and guests was 14. The Society was particularly honored to have as one of its guests Mr. Don Brummell, Executive Assistant for the Missouri State Medical Association.

The meeting was called to order by the president, Doctor Alfred Eklund, following the social hour and dinner. The scientific portion of the program presented a discussion of problems of the RH factor by Gene A. Schillie, M.D., of Kansas City. Doctor Schillie also discussed some of the new reports on the use of intrauterine contraceptive devices.

Next, a business meeting was held. The chairman made special recognition of the appointment of Dr. O. B. Barger, a member of the Society from Harrisonville, as chairman of the newly organized Board of Health of Missouri.

Minutes of the previous meeting were read and approved. Correspondence received by the secretary was presented and discussed. The Society voted to participate again in the Ten County Society Bulletin published by the Jackson County Medical Society.

The secretary reported on the conference of state presidents and secretaries held in Columbia. A résumé of the Title XIX program as it pertains to physicians was presented. A question and answer period followed. Mr. Brummell was a great help in this portion of the program.

It was voted by the members that the wives of the Society members and of the veterinarians in this territory are to be invited to the spring joint meeting of doctors and veterinarians. It was announced that the next meeting will be held in Nevada on Dec. 15 and the topic for the meeting will be "Medicine and Religion."

There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

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The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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New Members

Donnalea S. Childs, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Childs is a native of Hays, Kansas, received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1958. She specializes in psychiatry.

James A. Dinkins, M.D., 937 Broadway, Cape Girardeau, has become a member of Cape Girardeau County Medical Society. Dr. Dinkins is a native of Yuma, Tennessee, received his preliminary education at Union University and his M.D. degree at the University of Tennessee in 1964. He specializes in pediatrics.

William K. Drake, M.D., 1325 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Drake is a native of Washington, D. C., received his preliminary education at Carleton College and his M.D. degree at Cornell University in 1961. He specializes in pathology.

Alan H. Edelman, M.D., 141 N. Meramec Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Edelman is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1961. He specializes in radiology.

Hugh Allen Hanna, M.D., 1017 Christopher St., Warrensburg, has become a member of Johnson County Medical Society. Dr. Hanna is a native of Warrensburg, received his preliminary education at Central Missouri State College and his M.D. degree at the University of Kansas in 1962. He specializes in surgery.

O. Martin Hasek, M.D., 600 N. Busch, Mountain Grove, has become a member of South Central Counties Medical Society. Dr. Hasek is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1966. He is in general practice.

Jerry L. Kinder, M.D., 1834 Broadway, Cape Girardeau, has become a member of Cape Girardeau County Medical Society. Dr. Kinder is a native of Cape Girardeau, received his preliminary education at Southeast Missouri State College and his M.D. degree at the University of Tennessee in 1959. He specializes in general surgery.

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Liberalized Keogh Act Now in Effect

Self-motivated and self-employed professional persons (including physicians) and businessmen should be alerted to the moderate liberalization, effective January 1, 1968, of the federal tax provisions in the revised Keogh Act designed to encourage self-pensioning, according to Merryle S. Rukeyser, columnist for *The AMA News*.

"The most important change is that the amended law permits a tax deduction for 100% of the contribution to a qualified retirement plan, up to $2,500 a year, instead of 50% of the contribution as at present. The allowable amount is 10% of earned income, but the maximum permitted is $2,500.

"The second basic amendment, affecting businessmen whose earnings stem from personal services and from capital investment, allows a self-employed individual to include as earned income all of his net profits provided his personal services are deemed to be a material income-producing factor. Under the present unrevised law, passed in 1962, only 30% of these net profits was considered earned income in determining the allowable size of the annual contribution.

"The tax incentive obligates the employer to include eligible employees. Excludable employees under the law are seasonal workers toiling five months or less a year, part time employees working 20 hours a week or less and employees with fewer than three years of service. The allowable income is not really free of taxation, but the tax is deferred until later years when the pension is collected.

"Until H.R.10 (the Keogh Act) was passed in 1962, there was a double standard. Those who worked for larger companies with pension plans, were benefiting from tax incentives, whereas the self-employed were denied these same privileges."

Mr. Rukeyser also pointed out that, even after January, the status of the two groups will not be equalized, and it is unwise to limit the contribution to $2,500 a year, particularly since this maximum for the employer, with differentials among employees, reduces pensions to others.

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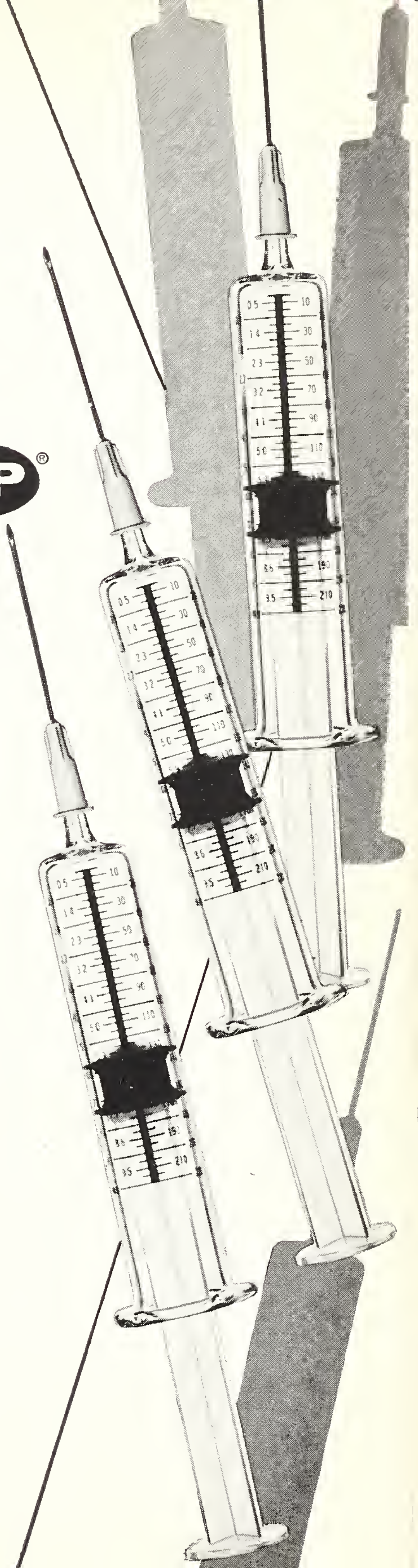

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Medicare Problems Reported to MSMA Council

Physicians are experiencing difficulty in finding beds for patients in the 61 Extended Care Facilities approved under Medicare in Missouri and especially in those facilities located in rural areas. This problem was revealed by Dr. Blaine Z. Hibbard, Chairman of the Utilization Review Committee, in his report to the Council of the Missouri State Medical Association at its December 9-10 meeting. Doctor Hibbard added that review committees are functioning in the various hospitals throughout the state and have determined that the patient must be educated, as well as the physician, if the Medicare Law is to be followed properly.

The Council approved two Utilization Review Committee recommendations and authorized Doctor Hibbard to draft an outline and explanation of the recommendations to be published in Missouri Medicine for the benefit of all physicians. The recommendations are as follows:

(1) Medical care for the age group 65 and over should be rendered whenever possible in the office of the private physician rather than in hospital outpatient departments; and

(2) The attending physician should cooperate with patients in the processing of Medicare forms for both direct payment and payment by assignment.

The Committee also reported experience in referral of hospital patients to extended care facilities and stated that care in these facilities is not clearly defined in the law and that a definition of "custodial care" or service not now covered by Medicare is needed.

The Council recommended that the Kansas City Blue Shield and General American Life insurance companies send a letter to all physicians explaining in detail regulations of the Extended Care Facilities.

Dr. H. V. Guhleman, who reported in the absence of Chairman Robert S. Terrill, presented the views of the Mental Health Committee in regard to the matter of Doctors of Osteopathy taking residency training in psychiatry under the instruction of Doctors of Medicine at the Nevada State Hospital. After discussion, the Council agreed that "There is nothing unethical or improper about Doctors of Medicine participating in the training program in psychiatry of Osteopathic Physicians at the Nevada State Hospital."

Other items discussed in the Mental Health report related to possible licensure of psychologists in Missouri under the umbrella approach; privileged information, particularly as it applies to psychiatrists; and temporary licensure law for foreign physicians. The Committee recommended that foreign physicians who hold temporary licenses be allowed to take the Missouri State Board examination when otherwise qualified and not be required to wait until they become U. S. citizens at the end of five years. It was pointed out that a similar recommendation has already been approved by the Council and MSMA House of Delegates.

Mr. Raymond McIntyre, MSMA Executive Secretary, reported on the Council resolution regarding persons who are illegally and unlawfully practicing medicine in Missouri which was transmitted to the State Board of Registration for the Healing Arts. He read a letter received from the State Board stating that such complaints transmitted to the Board would be investigated. Mr. McIntyre also presented a brief résumé of the 1968 Annual Session program for Dr. Richard Yore, Chairman, who could not be present.

Reference was made to the resolution adopted by the 1967 House of Delegates regarding fees paid to the State Board of Healing Arts. After discussion and on advice of legal counsel, the Council decided that no action be taken in regard to the resolution at this time and that a formal report by legal counsel be included in the Council report to the House of Delegates at the next Annual Session.

In presenting the report of the Infant and Child Care Committee for Chairman, James A. Kinder, Mr. Tom Fox, MSMA Executive Assistant, reported that the Committee had discussed regulations of the PKU law and the difficulties encountered in enforcing the law. He said the latter are due mainly to the failure of some hospitals to report testing or, in many cases, to make the test. The Committee urged MSMA members to contact their respective hospitals and urge them to cooperate in making the tests and in reporting the results to the Missouri Division of Health as required by law. It was stated that the latest revised rules regarding the PKU law were distributed to all physicians in Missouri in July, 1967.

Dr. Guy N. Magness, who represented the MSMA at the AMA 11th National Conference on Physicians and Schools on Oct. 4-7, 1967, reported that recommendations made at this conference included those for a full health course in public school curriculum, education on the evils of alcoholism and value of driver training courses. He also reported on a program by the St. Louis County Medical Society School Health Committee on "Learning Disabilities of Young Children."

In regard to high school and college athletics, the Council agreed to recommend that "proper precaution be taken that adequate conditioning take place before a student participates in athletics."

The Council approved the Committee's report including Council action regarding adequate conditioning of athletes.

Mr. Tom O'Brien explained briefly the ODMC program for the year 1968, stating that the new contract between Missouri Medical Service, Inc., as fiscal agent in Missouri, and the Office of Dependents' Medical Care would be similar to the contract of 1967 and would include the retired members of the Armed Services. However, physicians' fees would be paid on the usual, customary and reasonable basis.

After discussion, it was agreed to provide the cut-off (usual and customary) fee schedules compiled by the Medical Economics Contract Committee to the office of Mr. O'Brien for use in dealing with ODMC.

Mr. O'Brien stated that a letter would be sent to the entire membership of MSMA explaining the new contract and he requested that a short article be published in an early issue of Missouri Medicine. *(This information was published on page 16 of the January, 1968 issue of* Missouri Medicine.*—The Editors.)*

U.S. MAIL
Bill O'Malley

"Hold it . . . relax! Today's the day he delivers Missouri Medicine!*"*

Dr. Byron M. Stuart presented the report of the Constitution and By-Laws Committee, stating that two items had been referred to the Committee by the Council for study and recommendation as follows:

> (1) That Chapter III, Sec. 2, line 4 and line 7, of the MSMA By-Laws be amended so that the word "members" in each of these two lines be changed to "memberships," as recommended in a resolution referred to the Council by the 1967 House of Delegates of MSMA.

The Committee recommended that Chapter III, Sec. 2, lines 4 and 7 of the MSMA By-Laws *not* be changed as suggested, since the Committee believes such a change will cause considerable confusion in members transferring from one society to another.

The second item concerned the feasibility of setting up specialty sections in MSMA. The Committee recommended against establishing specialty sections for the following reasons:

a. The Association does not have a large enough membership.

b. No real need seems to exist.

c. Further so-called "splintering" of the profession should be avoided.

d. Space and time for the many meetings could become quite difficult to work out at the Annual Session of the Association.

e. The House of Delegates has recently established a new Committee of MSMA called the Committee in Interspecialty Medicine to be composed of one representative from presently formed statewide specialty groups and from others which may be formed in the future. This Committee is charged with the responsibility of reviewing administrative problems with respect to scientific programs, socio-economic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this Committee are to be made periodically to the Council as well as to the House of Delegates. Your Committee feels that this Committee on Interspecialty Medicine displaces any need for scientific specialty sections in MSMA.

f. It has been a policy of the Annual Meeting Program Committee of MSMA to contact the various specialty groups and invite them to put on a part of the scientific program of the MSMA Annual Sessions. This procedure has proved quite satisfactory and excellent cooperation and results have been evidenced. This procedure and results further convince the Committee that specialty sections are not needed in MSMA.

The Committee on Constitution and By-Laws also recommended that an overall study be made of the existing committee structure with the objective of simplifying the structure by possibly combining some of the existing committees and deleting others. The Committee considered this a major undertaking that should be recommended to the Council and House of Delegates for thorough study. On motion duly seconded, the Council approved the Committee's recommendations.

Dr. Gerald L. Miller introduced the subject of the physician's signature requirement in regard to antidiscrimination in the Missouri Vocational Rehabilitaton program in compliance with the Civil Rights Act of 1964. Dr. Earl Lloyd, of the Missouri Vocational Rehabilitation Department, explained the program to the Council and stated that the guidelines originally issued by the Department of Vocational Rehabilitation indicated that an acceptable preliminary step in the procedure would be either (a) to require each vendor to sign in advance a statement that he will not discriminate in providing service under the federally-assisted program, thus establishing a list of eligible vendors, or (b) to require each vendor who provides services sign a similar statement each time he submits a claim for payment under the program. Since these procedures had met with opposition from physicians and the MSMA, a third method had been devised whereby a notice of the requirements of the statute would be printed on the back of the voucher form used to claim payment for services. The vendor would be required to use and sign the VR voucher form in order to be paid, but he would not have to sign a statement of nondiscrimination. Copies of the voucher form were distributed to members of the Council who agreed that the third method of payment would be acceptable and the voucher form, as proposed by the VRP, could be used by those physicians who wish to participate in the program.

Dr. Joseph L. Fisher reported briefly on the County Medical Society Officers Conference held in Columbia on Nov. 4-5, 1967. He stated that attendance (100) was good and that communications was the subject of most discussions. It was pointed out that too much time elapses in communications between the county society level to the state level and the AMA level for efficient and timely implementation of subjects. Doctor Fisher said that one Conference group discussed the possibility of inserting a colored tear-out sheet in Missouri Medicine, and possibly the *Journal of the AMA*, especially for presenting problems confronting organized medicine. The physician-reader could use this sheet to express his opinions and return it to the MSMA, or he could file the information for future reference. Among other subjects, Medicare and Medicaid information could be disseminated in this manner for reference.

Doctor Fisher also discussed various ideas presented at the Conference for improving attendance at medical society meetings. He said that the orientation of new members on both the county society and MSMA levels rated considerable attention in the four discussion groups. The Conference also considered ways in which physicians can be more effective in obtaining good health legislation. He reported that it was the general consensus of opinion of those who attended the meeting that it should be held annually.

The Budget Committee presented the following 1968 Proposed Budget which was approved by the Council:

Salaries	$ 87,715.00
Furniture and Fixtures	2,000.00
Office Rent	4,800.00
General Expenses	2,500.00
Office Supplies	4,500.00
MSMF Assessments	26,300.00
Postage	5,500.00
MSMF Expenses	2,500.00
Journal Expenses	37,000.00
Equipment, Rentals, etc.	2,000.00
Telephone & Telegraph	4,500.00
Pension Expenses	12,725.00
Legal and Professional	6,000.00
Taxes Payroll	2,800.00
Travel Expenses	6,000.00
Meetings and Committee Expense	38,200.00
Annual Session	17,150.00
TOTAL	$262,190.00

In reporting on the 21st Clinical Convention of the AMA held in Houston on Nov. 26-29, 1967, Dr. Richard H. Kiene stated that there was a discussion regarding the Report of the National Advisory Commission on Health Manpower which had been released to the press before the AMA was informed of its contents. He reported that Dr. Dwight L. Wilbur, a member of the Commission, knew about the report but was not in a position to reveal its contents at that time. Dr. Arthur Neilson then explained why a proposed resolution concerning this matter was not introduced in the AMA House of Delegates and read a letter received from AMA President-Elect Wilbur regarding the Commission's report.

Doctor Kiene also reported on a number of actions taken by the House of Delegates which were published in the January issue of Missouri Medicine. He reported that all MSMA Delegates and Alternates attended the Convention, as well as a number of MSMA officers and committee chairmen.

Dr. McCraw called attention to the fact that this was Dr. Kiene's last year as AMA Delegate and reported Dr. Kiene had attended 15 meetings of the AMA during his term as Delegate. A vote of thanks was given to Dr. Kiene for his time and effort in attending AMA meetings and on motion of Dr. Kerr, duly seconded, it was agreed that a letter of thanks and appreciation be sent to Dr. Kiene for his services in the AMA House of Delegates on behalf of MSMA.

Dr. John T. Crowe, chairman of the Disaster Medical Care and National Defense Committee, reported on the Boone County Hospital Disaster plan which is now in operation. He reported that the Committee also had discussed problems concerning ambulance service in Columbia and other areas and had agreed to study one or two key problems. The Committee also considered radio communications and suggested that the MSMA contact the Missouri Chapter of the American College of Surgeons to consider one-day seminars on emergency medical care to be sponsored jointly by the MSMA, Missouri Chapter of the American College of Surgeons Committee on Trauma and the three medical schools in Missouri.

The Committee presented the following resolution for Council approval:

> "Whereas, Despite improvement in vehicle and highway design the death toll on Missouri highways and streets continues to climb almost unabated, and
>
> "Whereas, Present statistics indicate that the drunk driver continues to inflict injury and death upon his fellowman in increasing numbers, and
>
> "Whereas, Present drunk driver laws are seemingly ineffective, therefore, be it
>
> "*Resolved*, That the Council of MSMA, through its related committees proceed with dispatch to promote the passage of legislation for implementation of Department of Transportation Highway Safety Standard 4.4.8 of the 1966 National Highway Safety Act which pertains to alcohol in relation to highway safety, and be it further
>
> "*Resolved*, That MSMA work for legislation to amend the present chemical test law from .15 percent by weight of blood alcohol to .10 percent by weight as prima facie evidence of alcohol intoxication and that such law provide for establishment of immunity, from lawsuit, covering physicians and other qualified personnel who withdraw blood specimens from arrested motorists or victims of vehicle accident, at the request of law enforcement officers."

The Council referred this resolution jointly to the Laboratory Medicine Committee and the Committee on Legislative Matters for study before action is taken.

Dr. William B. See, Chairman, of the Committee on Maternal Welfare reported that Dr. C. W. Meinershagen of the Division of Health had explained the proposed revised Certificate of Live Birth which is to be used by physicians beginning in January, 1968. Dr. See said that the Committee made suggestions for changes in several items which will be transmitted to the Division of Health.

Doctor See also reported that the Committee on Maternal Welfare had discussed the present Missouri Law regarding abortion and SB 356 which was introduced in the 74th General Assembly but not passed. He said the Committee favors a revised law in line with the principles set forth in the perfected copy of SB 356 with certain amendments as follows:

> (a) No abortion shall be performed unless three (duly licensed, specifically competent) physicians other than the physician to perform the abortion, certify in writing that they believe the abortion to be justified and necessary.
>
> (b) The certificate shall also be open to inspection by the hospital medical staff committees concerned with maintenance of hospital standards.

The Council referred the recommended revision to the Legislative Committee for further study.

Doctor See reported that the Committee also had discussed the Good Samaritan Legislation, Immunity for Liability of Hospital Staff Committees, Utilization Review and Maternal Mortality Committees and had recommended that efforts be continued to secure such protective legislation.

The Council agreed that legal counsel be empowered to conduct a study of protective legislation, determine what other states are doing in this regard and determine if such laws have been upheld by state Supreme Courts and whether or not they have been held to be in conflict with any state constitutions. Resulting information would be considered in deciding recommendations to be made to the Missouri Legislature. On motion duly seconded, the Committee's report was approved.

In the absence of Dr. Charles A. Worley, Chairman, Mr. Fox presented the report of the

(Continued on page 88)

ENDURON® **ENDURONYL®**

METHYCLOTHIAZIDE

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg

Indications: Edema and mild to moderate hypertension (Enduron), and mild to moderately severe hypertension (Enduronyl). More potent agents, if added, can be given at reduced dosage.

Contraindications: Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease or impending hepatic coma (hepatic coma due to hypokalemia has been reported in patients on thiazides). Do not use Enduronyl in severe mental depression, suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

EUTRON™ Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amendable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

TM-TRADEMARK

Contraindications: Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery ¼ to ⅕ the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

Adverse Reactions: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination. 801438

ABBOTT

Rural Medical Service Committee which had studied the AMA proposed Rural Emergency Medical Services Plan and Recommended Council approval for adoption by MSMA of the AMA five-point plan with amendments. The plan to be implemented at the state and local levels reads as follows:

1. Rural communities coordinate their efforts with adjacent towns in analyzing existing patterns of response to medical emergencies.
2. Rural and urban communities institute a medical service area program for emergency medical transportation facilities and health personnel.
3. Adoption by rural and urban communities where practical, of standards for ambulance equipment, personnel and operation, liability insurance requirements and maintenance of records.
4. Rural and urban communities provide a program of advance Red Cross first aid instruction for the non-medical people most frequently called in rural emergencies.
5. Rural and urban communities develop a continuing campaign directed toward first aid instruction for rural families and practicularly young people through the schools, youth organizations, and other educational channels.

On motion duly seconded, the report of the Committee on Rural Medical Service was accepted.

The Council discussed a Comprehensive Health Planning program for Missouri under PL 89-749. A planning guide or explanation of this program from the Division of Comprehensive Health Planning, Office of State and Regional Planning, State of Missouri, was distributed to the Councilors who agreed to study the program and that the Executive Committee of the Council present suggestions to the Council at its next meeting.

Council members attending the meeting were:

Doyle C. McGraw, M.D., Chairman, 8th District
Joseph L. Fisher, M.D., Vice-Chairman, 1st District
Lysle M. Bach, M.D., 2nd District
Walter T. Gunn, M.D., 3rd District
Robert A. Mayer, M.D., 4th District
James C. Cope, M.D., 5th District
Rolla B. Wray, M.D., 6th District
Gerald L. Miller, M.D., 7th District
E. A. Stricker, M.D., 9th District
W. D. English, M.D., 10th District
Hector W. Benoit, Jr., M.D., MSMA President
David N. Kerr, M.D., MSMA President-Elect
Max S. Franklin, M.D., MSMA Treasurer
Byron M. Stuart, M.D., MSMA Immediate Past-President

The next meeting of the Council will be held on February 3 and 4, 1968.

This Council report covers only the highlights of the December meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

PROFESSIONAL RETIREMENT PLANS

Interested members of the Missouri State Medical Association are invited to attend a program on professional retirement plans at Memorial Union Hall, University of Missouri, in Columbia on February 29 and in St. Louis on March 1.*

Sponsored by the Business and Public Administration School of the University in cooperation with the Missouri Association of Life Underwriters, the program will explain the Keogh Act (H.R. 10) regarding the self-employed retirement program and tax sheltered annuities.

Registration for the one-day meeting in Columbia will be at 8:30 A.M. The fee is $10.00 and includes lunch. The one-day program will begin at 9:00 A.M.

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* Location for the meeting place in St. Louis to be announced.

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DON'T BE LULLED BY RELATIVE LACK OF FLU LAST WINTER. THIS WINTER BE PREPARED: WHEN THE COMPLAINTS ARE COUGH AND CONGESTION, YOU CAN RELIEVE THESE SYMPTOMS WITH TUSSAGESIC TABLETS. ONE TIMED-RELEASE TABLET AT MORNING, MIDAFTERNOON AND BEDTIME BRINGS UP TO 24 HOURS' RELIEF FROM TROUBLESOME COUGH AND STUFFED AND RUNNY NOSE. TUSSAGESIC IS THE FAMOUS TRIAMINIC FORMULA, PLUS THREE OTHER PROVED CONSTITUENTS. MAKES PATIENTS MORE COMFORTABLE. FAST. ASK YOUR DORSEY REPRESENTATIVE FOR SUPPLY OF STARTER SAMPLES, OR IF FLU IS ALREADY EPIDEMIC, PHONE COLLECT. SEE BELOW.

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Tussagesic®
timed-release tablet contains:

Triaminic®	50 mg.
(phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Dosage: Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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Notes of interest from Here . . . . and There

Dr. Oscar P. Hampton, Jr., chairman of the American College of Surgeons' Committee on Trauma since 1964, has been appointed Assistant Director (Professional Activities) of the College. He is responsible for and in charge of the Trauma Committee's activities. Before moving to the Chicago area, Doctor Hampton plans to devote part time to his new assignment with the College while he winds up his professional and personal commitments in St. Louis.

Dr. R. E. Bregant has been elected president and chief of staff of the medical staff of Memorial Community Hospital in Jefferson City for 1968. Elected with Doctor Bregant were **Drs. C. Stuart Exon**, vice-president; **William H. Lauderdale**, secretary-treasurer; and **Jack S. Sanders** and **Robert H. Tanner**, members of the Executive Committee.

Dr. Charles Christianson has assumed duties as chief of internal medicine at the Missouri State Sanatorium in Mount Vernon. Doctor Christianson served with the U. S. Army from 1948 until the time of his retirement as a surgeon with the rank of Colonel on October 31, 1967. Specializing in internal medicine, he has had wide experience in the field of pulmonary diseases.

The General Staff-Board of Trustees of the Wright Memorial Hospital in Trenton has announced the appointment of **Dr. Windsor B. Atcheson** and **William O. Lenhart** to membership on the General Staff-Board of Trustees. Doctor Atcheson also is a member of the medical staff. Mr. Lenhart is co-publisher of the *Republican-Times* newspaper in Trenton.

Dr. David S. Glasgow, a native of Crystal City, has opened an office in that community. He also has joined the staff of Jefferson Memorial Hospital.—**Dr. E. T. Irinyi** of Hamilton has moved to Sunrise Beach where he has opened an office.

At the 61st Annual Meeting of the Southern Medical Association recently, **Dr. Barney W. Finkel**, St. Louis, was elected chairman-elect of the Association's Section on General Practice and **Dr. Lester E. Wolcott**, Columbia, was elected secretary of the Section on Physical Medicine and Rehabilitation.

Dr. Donald B. Holley, Camdenton, has been elected chief of staff of the Louise G. Wallace-Rowden Hospital Center in Lebanon. He succeeds **Dr. Howard W. Carrington** of Lebanon. Other newly-elected officers are **Dr. R. W. Froelich**, Lebanon, vice-president and **Dr. Thomas K. Beene**, Lebanon, secretary-treasurer.—**Dr. J. E. Hombs**, Glasgow, was named chief of staff at Keller Memorial Hospital in Fayette. **Dr. W. J. Shaw, Sr.**, Fayette, was named vice-president and **Dr. Morris Leech**, also of Fayette, was named secretary-treasurer.

Dr. Leroy J. Miller has been elected to serve as chief of staff for 1968 by the medical staff of Boone County Hospital in Columbia. **Dr. Clarence M. Pickard** was elected vice-chief of staff and **Dr. Sidlee W. Leeper** was named secretary.

The unusual story of **Dr. R. N. Crews** of Fulton, believed to be Missouri's oldest practicing physician, again has been told in the Missouri press. In her story for the Associated Press, **Doris Taryle** of *The Fulton Sun-Gazette* reports that Doctor Crews celebrated his 97th birthday by taking a helicopter ride. He observed his 95th birthday with a jet ride to New York to visit his daughter and her family. Doctor Crews is now in his 73rd year of medical practice and "keeps right on going where even younger men might falter." In the feature story, Doctor Crews stated that "maintaining a sense of humor" and having "faith in the present and future and in God and man" have helped him reach the age of 97.

Dr. Edwin C. Ernst, St. Louis, was presented the St. Louis Downtown Kiwanis Club's "Man of the Year" Award for 1967. **Mr. Charles B. Haverstock** presented the award plaque to Doctor Ernst who has been a member of Downtown Kiwanis since 1937.

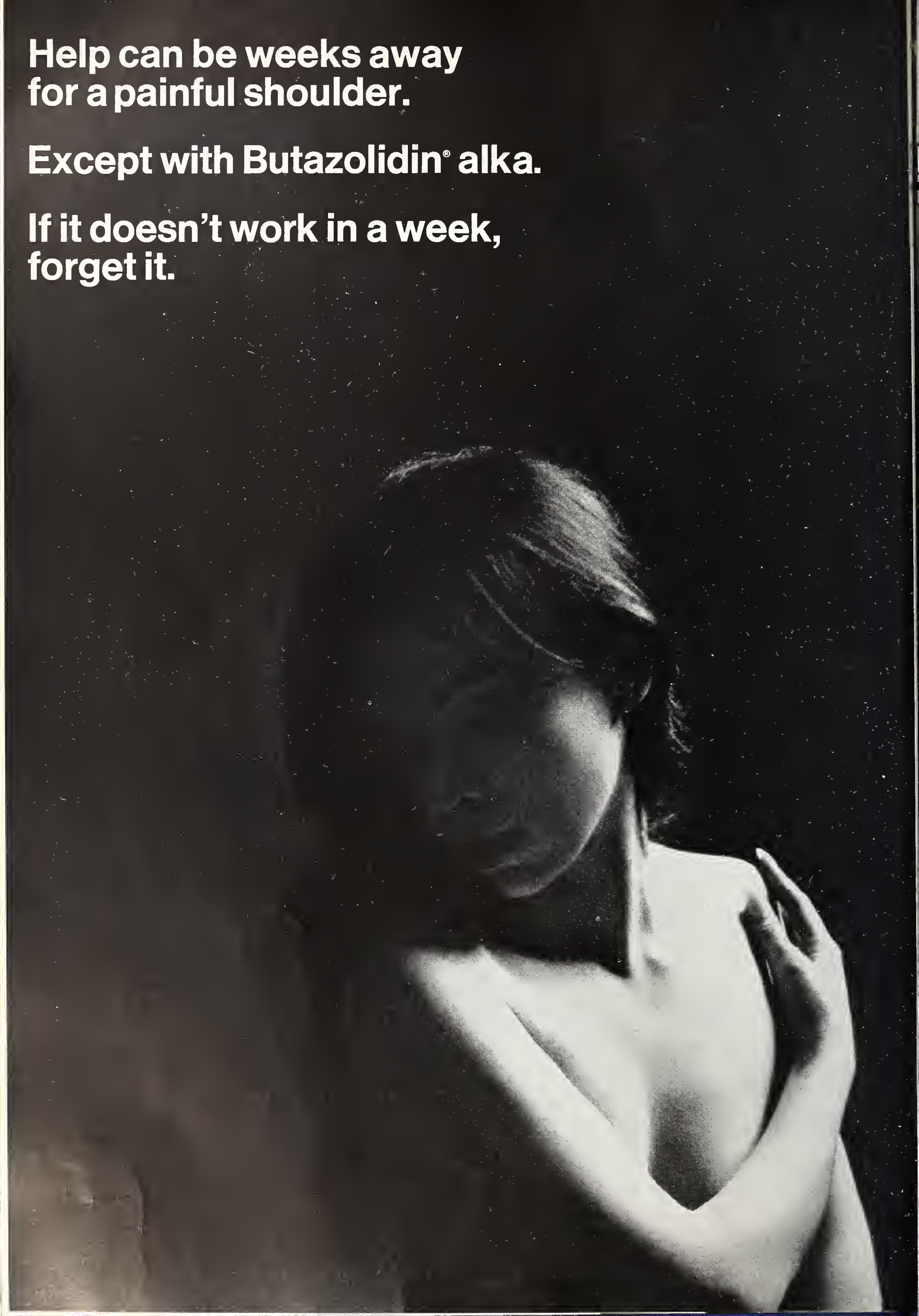
Dr. Jack Wiles has been elected medical chief of staff at the West Plains Memorial Hospital. He replaces **Dr. William Carhart,** vice-chief of staff, who assumed his duties when **Dr. John Wilson,** former chief of staff, moved to Springfield. **Dr. W. Thomas Morgan** was elected vice-chief of staff and **Dr. Murray Pritchard** was named secretary.

Dr. Matthew W. Weis, St. Louis, received the Mercy Award from the Sisters of Mercy at the annual staff dinner for doctors and members of the Advisory Board of St. John's Mercy Hospital. The Mercy Award is the highest honor presented by the Sisters of Mercy and was given in grateful recognition of Dr. Weis's 40 years' of outstanding dedication, loyalty and service in aiding the Sisters in the care of patients at the hospital. **Sister Mary Isidore,** R.S'M., administrator, presented the award. **Sister Mary Bertrand,** R.S'M., associate administrator, gave Doctor Weis a framed citation listing the many reasons for his winning the award.

Dr. L. M. Bach, Hannibal, has been named chief of the medical staff of St. Elizabeth Hospital. Announcement of the appointment was made by **Mother M. Rosina,** O.S.F., mother general of the Sisters of St. Francis of Maryville. Doctor Bach is Councilor for the Second District of the MSMA.

Dr. Byron E. Watts, 1967 president of the St. Mary's Hospital medical staff in Jefferson City, received the "Physician of the Year" award at a banquet for the Hospital's medical staff and advisory board. The award was presented by **Dr. Julian Ossman.**

Dr. James L. Russell, Kansas City, has been installed as president of the medical staff of Trinity Lutheran Hospital. Also installed were **Drs. Richard J. Lanning,** president-elect; **Robert Butcher,** vice-president and **William A. Geiger, Jr.,** secretary-treasurer.


Help can be weeks away for a painful shoulder.
Except with Butazolidin® alka.
If it doesn't work in a week, forget it.

ged and debilitated

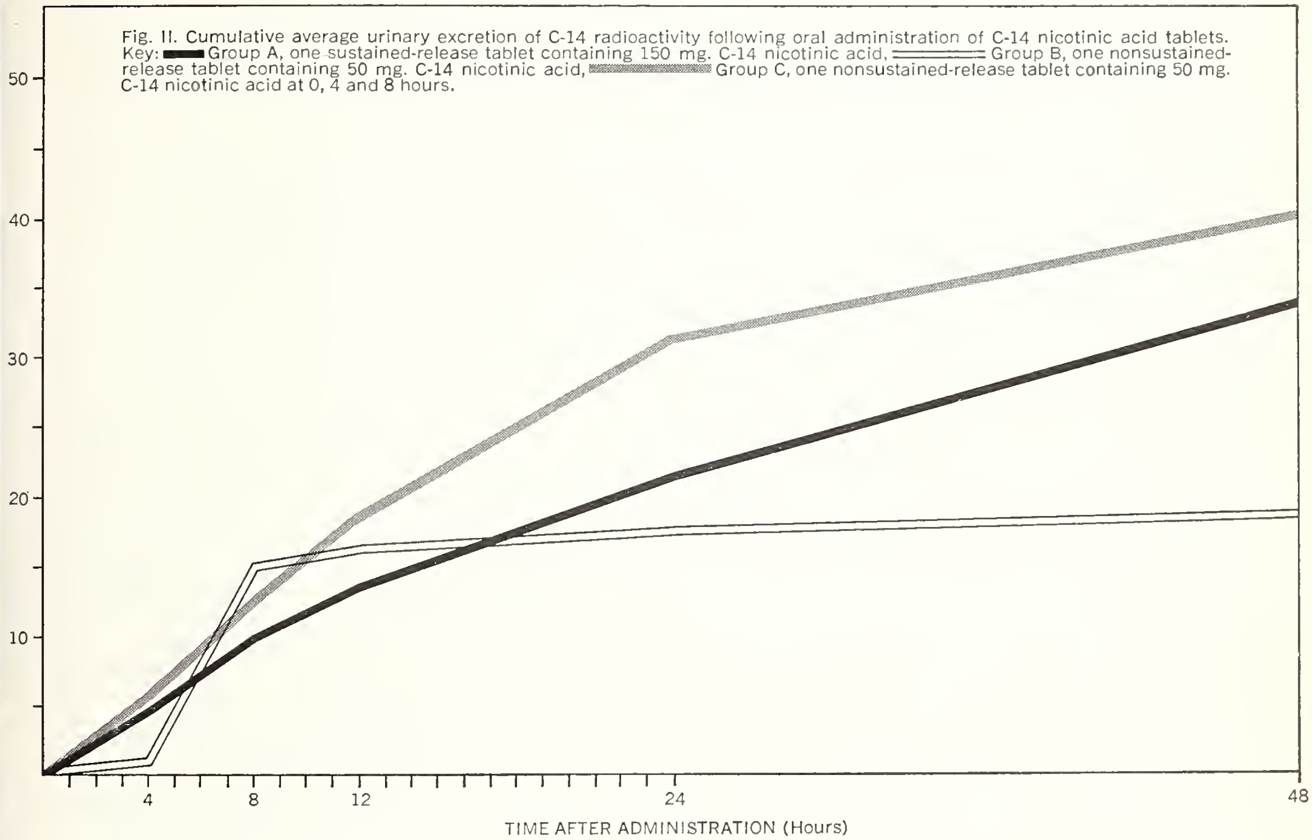


Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

ess confused and moody. Personal care, memory, motional stability, social attention improve. Fatigue, pathy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will ermit your patients to enjoy the benefits of time-rolonged nicotinic acid/pentylenetetrazol therapy, t an economical price. Dosage is only one tablet every 2 hours.

ontraindications: There are no known contraindica-ions.

recautions: Exercise caution when treating patients ith a low convulsive threshold.

Side Effects: Side effects are rarely encountered however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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)

Special Feature —

The Future of Comparative Medicine

By

W. I. B. BEVERIDGE, D.V.Sc.[*]
Cambridge, England

The following is a transcript of the keynote address which Doctor Beveridge delivered at the 1967 Annual Midwest Interprofessional Seminar on Diseases Common to Animals and Man at the University of Missouri. The Editors believe the address contains pertinent points that will be of great interest to all in the medical and allied professions. They wish to thank D. C. Blenden, D.V.M., of the University's School of Veterinary Medicine for bringing this work to the attention of MISSOURI MEDICINE.

SO MUCH ALREADY has been written about the general principles of comparative medicine that the task of finding something fresh to say on occasion such as this has become a real challenge. As though that were not difficult enough, Dr. Blenden has told me, in effect, that everyone already knows about the past and the present, so "say something about the future!"

Nevertheless, before projecting our thoughts to the future, I should like, very briefly, to refer to some past events as a justification for my optimism about the future role of comparative studies in medical research. I shall not take up your time with a long catalogue of discoveries arising from animal studies, but I would like to remind you of some historical facts which show, in a striking way, that our present-day knowledge of infectious diseases of man is based on concepts that were mostly derived from investigations on diseases of domestic animals. I shall just list some of the breakthroughs in this field:

1. The truth of the all-important germ theory of disease was first convincingly demonstrated by Pasteur and Koch working with anthrax in sheep.

2. The concept of artificial immunization with attenuated vaccines originated in Jenner's work with cowpox and Pasteur's experiments with fowl plague.

3. In 1886, the possibility of immunization by injection of killed cultures was discovered in the course of investigations of swine plague by Salmon and Smith.

4. Within the last decade, researchers at the Glasgow veterinary school have found out how to produce immunity against certain worm parasites, and the method is now being tried with hookworm in man.

5. The fact that disease agents may be transmitted by arthropods was first shown in experiments with Texas fever of cattle, and the discoveries with malaria and yellow fever followed.

6. The first viral encephalitis to be shown to be transmitted by mosquitoes was a disease of horses.

7. Mycoplasma have been familiar to veterinarians as a cause of disease since the end of the last century, but only of recent years have they been recognized in human disease.

8. In 1898, Loeffler and Frosch's discovery that a microbe smaller than bacteria, *i.e.* a virus, caused foot-and-mouth disease was the forerunner of the discovery of viruses as a cause of diseases in man.

9. Today, we seem to be witnessing another breakthrough of great biological and medical significance, namely, that the disease of sheep called *scrapie* is apparently caused by a replicating agent still smaller than known viruses and, perhaps, fundamentally different in that it appears to have no nucleic acid.

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[*] An internationally recognized authority in comparative medicine, Doctor Beveridge is Professor of Animal Pathology, University of Cambridge. Since 1957, he has served as President of the Permanent Committee of the World Veterinary Association and presently is a Consultant in Comparative Medicine, Section of Veterinary Public Health, World Health Organization, Geneva, Switzerland.

This remarkable series of key discoveries made during investigations on animal disease is not to be explained as due to there being more research on animals than man, because the contrary is true. I submit that they show that the principles of disease can be revealed more readily in animals.

These discoveries are examples of some of the incidental "fall-out" from investigations on communicable diseases of animals, undertaken in most instances because of their economic importance. The degenerative diseases are of little economic importance in animals, so there has been no corresponding fall-out in these diseases. Research in the field needs to be sponsored in the deliberate expectation of findings relevant to human problems.

A traditional method in medical research is to attempt to reproduce a disease in an experimental animal, usually one of the laboratory rodents. This method has been very fruitful in communicable and nutritional diseases, but has met with only very limited success in the chronic degenerative diseases, because they are more difficult to reproduce experimentally. The modern approach is to search for species in which counterparts of human disease occur naturally and to use these as models for research. Many animal species are involved in these investigations, but non-human primates are receiving particular attention and, in my opinion, will play an increasingly important part in future medical research.

The advantages of an animal model are obvious but bear re-stating: (1) all manner of experimental procedures and intervention studies not permissible in man become feasible; (2) human pathology is often handicapped by being confined largely to the terminal stages of a disease, whereas study of the early stages is usually more informative; (3) changes spread over half a century in the life of a man may be observed in a few years in a dog, pig or chickens; (4) a deeper insight into the nature of the disease processes involved can be gained by investigating them in a wider context as they occur with different physiological processes and different ways of life. In this connection, it should be remembered that an analogous disease in another species often is not an exact replica of the human disease, even when the cause is identical, and the differences may be as significant and revealing as the similarities.

Since the conquest of most lethal epidemic diseases of man in the developed countries, the main targets for medical research have been the chronic degenerative diseases, especially cardiovascular diseases and cancer. What directions may we expect to see developments in these fields take?

Atherosclerosis is the "number one" problem. This is a direction in which I think we can expect a great expansion of effort. Several species have been surveyed in a search for suitable animal models, and the consensus is that certain non-human primates and pigs provide the best models.

Studies on the epidemiology of atherosclerosis in man have indicated several factors that appear to play a part in complex etiology of this condition, *e.g.*, softness of drinking water, lack of exercise, moderate to large amounts of sugar or animal fats in the diet and mental stress. Epidemiological studies can only reveal associations between possible etiological factors and disease; to determine which factors *do* play a part in etiology and elucidate the mechanisms by which they operate requires experimental studies. In the not too distance future, one may expect to see many experimental studies in monkeys and pigs to investigate the physiological and pathological effects of the factors listed.

Some other species are useful for certain types of experiment and there are still numerous species that have not been investigated. There also are possibilities of selecting especially susceptible strains within species and even selectively breeding for susceptibility.

A special aspect of atherosclerosis is cerebrovascular disease. Virtually nothing was known about cerebral infarcts in animals due to atherosclerosis until just a few years ago. Doctor Lüginbuhl has found that pigs over eight years old commonly have extensive atherosclerosis of the cerebral vessels and often associated infarcts. Thus, for the first time, there is now available an animal model for this important condition and an experimental approach can be made to seek answers to such questions as "is the excessive prevalence of cerebrovascular disease in some developing countries due to shortage of protein in the diet?"

Other comparative cardiovascular studies already underway include clotting and thrombus formation, congenital defects of the heart and great vessels, examination of human hearts for small vessel disease so common in several species of animals, high altitude heart disease and investigation of more species for spontaneous cerebrovascular disease.

Turning now to cancer, what direction can we expect comparative studies in the future to take? WHO has embarked on a program aimed at establishing a standardized classification and nomenclature of cancers in animals, integrated so far as possible with those being worked out under the aegis of WHO for human tumors. It will be some years before this stated objective is reached but, no doubt, during the course of these studies, much other useful information will be brought to light.

The main reason for working out a standardized classification and nomenclature of tumors is to provide in the future a more exact basis for epidemiological studies. Already, however, epidemiological studies are being undertaken in a number of centers. Probably the largest and most comprehensive undertaking of this sort is the California Cancer Field Research Program.

Another activity aimed at collecting information on animal cancer is the NIH veterinary clinical data program. This system of handling records has been adopted by a number of veterinary schools in the United States, Canada, Europe and Australia. No doubt, it will become very widely used in the near future. Although the prime reason for developing this system was to provide a basis for studies in the epidemiology of cancer, it also will provide data on many other conditions of potential value in comparative medicine.

Broadly speaking, the objective of epidemiological studies is to bring to light examples of high incidence and relate these to environmental and physiological factors. As more examples of high incidence of particular types of cancer in one species or another or one region or another become known, etiological investigations will follow. We have seen this happen during recent years with leukemia and bladder cancer, and similar developments may be expected with other tumors when more information becomes available.

Another aspect of comparative oncology which is not yet being fully exploited is the use of spontaneous animal tumors for testing various therapeutic measures. A closer liaison between veterinary clinics and cancer research institutes, which are being developed in some centers, will facilitate these studies. These therapeutic trials will have greater value as a result of the studies in pathology, undertaken in connection with classification, which will lead to better understanding of the comparability between apparently similar types of tumors in man and animals.

Apart from cardiovascular disease and cancer, in what other degenerative diseases are we likely to see developments in comparative medicine? As always, in research there will be some surprises; some links between human and animal disease will be found which we do not yet know about. The list of possible areas in which comparative studies may expand is long, but those meriting special mention are the various so-called rheumatic diseases and arthritis, auto-immune and connective tissue diseases, the degenerative diseases of the nervous system and gerontology.

Auto-immune disease in NZB mice has been widely exploited as a model during recent years, and studies are being undertaken on systemic lupus erythematosus in dogs and Aleutian disease of mink. Doctor Leader has ably reviewed present knowledge concerning diseases of this type in animals and, no doubt, further examples will be found that will provide experimental models for human problems in this field.

Gerontological studies include many degenerative diseases as well as more subtle changes associated with aging and questions of longevity. So far, most such studies have been done with rodents, but it is necessary to extend them also to such animals as dogs, pigs and non-human primates so that the data obtained are more closely related to human problems. Life span studies in these species are, of course, very costly and require large resources, and it is gratifying to see adequate funds being made available at some centers in the United States. As an increasing proportion of the population lives beyond the biblical three score years and ten, the importance of comparative studies in gerontology will become still more generally recognized and supported.

Another field which deserves special mention, because it is just opening up and rapidly expanding, is that of the so-called slow virus infections, especially of the central nervous system. The concept of the "slow infections" by viruses, as distinct from acute or chronic, was first formulated by Sigurdsson as a result of his study of visna and maedi in sheep in Iceland. In slow infections, there is a long subclinical or incubation period during which pathological changes may be detected and the infective agent isolated, even in the presence of antibodies in the serum. This is followed by the slowly progressive, inevitably fatal clinical disease in which a different type of pathological lesion may develop in a single organ or tissue. The difference between a slow infection and a chronic infection is that, generally, the former is steadily and relentlessly progressive, but the distinction is not always clear.

Scrapie of sheep is the disease of this category which has aroused greatest interest during the last decade or so. In 1959, Hadlow drew attention to the close similarities of Scrapie with Kuru and then followed the experiments which led to transmission of Kuru to chimpanzees. Meanwhile, brains from patients with disseminated sclerosis had been inoculated into sheep and goats and produced a scrapie-like disease. Thus, exciting new possibilities have been revealed and the search has been started for slow viruses in various degenerative nervous diseases of man, reasoning by analogy and using the techniques learned from the scrapie work. The term, CHINA, has been coined to describe Chronic Infectious Neuropathic Agents. The researches now underway and proposed have been well reviewed by Brody and others, and tomorrow Doctor Leader is going to bring us up-to-date. This undoubtedly is an aspect of comparative medicine in which important developments may be expected.

I venture to predict that it is against slow viruses that chemotherapeutic agents will eventually be found which have an important place in therapy. It will be hard to improve on the body's own defenses in the time available to treat an acute infection, but against slow viruses these defenses are ineffective, and there is plenty of time for chemotherapeutic agents to exert their effect.

The concept of virus infection underlying degenerative diseases extends beyond diseases of the central nervous system. Autoimmune diseases and cancer already have been mentioned. Some forms of kidney disease and cardiomyopathies also may be candidates for investigation along these lines.

Another important field is that of fetal pathology, which has received considerable attention since Gregg's pioneering work with rubella. Infection of the pregnant ewe with Blue-tongue virus produces congenital deformities in the lamb, and injection of the chick embryo with the virus of avian encephalitis produces abnormalities in the chicks.

Investigations have been undertaken on a large scale to determine whether other common virus diseases of man produce deformities in the fetus, but generally the results have not indicated that these diseases commonly cause deformities. Recent studies in animals suggest, however, that congenital deformities may be caused by viruses that produce little or no disease in the mother. It has just been reported that hypomyelinogenesis congenita in the offspring may be produced experimentally by inoculation of the pregnant ewe with material from affected lambs. A similar pathological condition occurs in piglets and calves, but no investigations have been reported yet on experimental attempts to reproduce the condition in these species.

I suggest that these findings imply that one must consider the possibility of congenital deformities in man being caused by fetal infections even in the absence of clinically apparent disease of the mother.

In the broad fields of nutrition and food hygiene, most of the old problems are still with us and new ones are constantly being thrown up. Possible long term and subtle effects of residues of pesticides, hormones and hormone antagonists, antibiotics and other environmental containments must be investigated and the appropriate precautions taken. The aflatoxin story shows that we still have things to learn about naturally occurring toxic substances. And what an amazing discovery was the transmissible resistance of bacteria to antibiotics! Who can doubt there will be more surprises we cannot even guess at now?

Our knowledge of the essential role of certain minerals in minute amounts in nutrition stems from investigation of naturally occurring diseases

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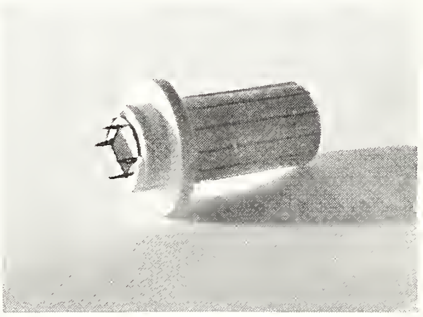

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of farm animals. Until recently, this knowledge did not seem to have applications to human problems. However, it has now been reported that zinc, adequate amounts of which are essential to the health of the skin of animals, plays a significant part in the healing of wounds in man. Surgical wounds healed quicker in patients taking zinc sulphate by mouth than in controls.

We must not forget that in communicable diseases there is still much to be learned from comparative studies. Let me give you an example, to show how research following reasoning by analogy also can be fruitful here.

Members of the Bedsonia or psittacosis group of agents are found in many species of animals where they cause several pathological conditions with a distinct tendency in several species to localize in the respiratory tract, eyes, placenta and joints. Human diseases due to those agents affecting the respiratory tract or the eyes are well known, but none affecting the placenta or joints. Recently, investigations prompted by the analogy have revealed Bedsonia in the joints of four patients with Reiter's syndrome and in four placentas from spontaneous abortions in women. It is not suggested that in either Reiter's syndrome or the human abortions the infection came from animals: all that has been transferred is knowledge of the parallel disease in animals.

It would not be appropriate for us to discuss here the well-known zoonoses, with which you all are no doubt familiar, but I would like to make the point that this is a constantly changing subject. The epidemiology of the old zoonoses such as salmonellosis, leptospirosis, rabies and tapeworms change with alterations in husbandry, industry and social structure of the human communities. These changes sometimes give rise to new zoonoses, and advances in knowledge reveal new aspects of old diseases. No doubt, new situations will arise in the future.

There is great interest at present in investigations into the possibility that monkeys may be natural reservoirs of malaria, yaws, syphilis and smallpox. Human typhus richettsia have been found in cattle and donkeys in Africa. One is reminded that, some years ago, Sir Mcfarlan Burnet argued that until a few thousand years ago the human species was too scattered and too few in number for specifically human parasites to evolve, and that it is much more likely that human parasites are but modifications of organisms that evolved in other species. Many seem to have been taken over even without modification.

Since it has been demonstrated that many viruses are able to exchange genetic material, in other words, to hybridize, one must bear in mind the possibility of human and animal counterpart viruses hybridizing. For example, it has been shown that human influenza viruses can hybridize with the avian influenza virus commonly known as *fowl plague*. Is this the means by which new human influenza pandemics arise?

An entirely new field in which we will see developments is organ transplantation from animals to man. Already heart valves have been successfully transplanted from calves into man, and kidneys from chimpanzees. Non-human primates would seem to offer the best prospects for developments here, but I would not care to speculate about the nature of the developments.

Another new field in which comparative studies are of basic importance is that ill-defined area commonly referred to as "early deprivation." These studies are concerned with the long-term effects of the very young being deprived of some requirements in nutrition.

It has long been known that not only the size but also the shape of the body of the adult pig is determined to a considerable extent by how the animal has been fed during its early life. During recent years, more subtle long-term effects of nutrition before and after birth and other environmental factors have been studied, including effect on intelligence.

I have kept till the last a field in which I believe we will see, in the not too distant future, developments of greater importance for the welfare and happiness of mankind than in all other aspects of medicine. Progress in investigations on degenerative disease has been slow, as I have already commented, but even slower has been progress toward understanding and preventing mental illness and neuroses of all sorts and solving sociological and environmental problems associated with our civilization. In the Western world today, there probably is more suffering and unhappiness caused by mental troubles than by physical disease.

Until recently, our thinking has been obscured by the widely held traditional conviction that man is a being quite apart from the rest of the animal kingdom. Not only did the Christian religion assert that man alone has a soul, but many psychologists held that consciousness is something that only man experiences. The barrier broken a century or more ago regarding physical diseases is only now being overcome in the mental field.

Comparative studies in behavior started with

(Continued on page 103)

Charles Darwin, but the modern era started only about 30 years ago. The last decade has seen a revolution in the behavioral sciences, the far-reaching implications of which only now are becoming generally realized. Many behavioral patterns which had always been regarded as characteristically human have been found firmly established in a lot of species, often amazingly far down the evolutionary tree. A sense of possession of territory, a sense of social status, loyalty to one's group and especially to one's mate, responsibility towards one's offspring: when my behavior or yours is governed by these considerations, we are obeying the same laws as are written into the genetic code of most vertebrates. Just as a large proportion of the genes that built our bodies are shared with many mammals, so also are those that build our minds. Can it be doubted that divided loyalties and conflicting desires that worry us also worry animals? Spontaneously occurring abnormal behavioral patterns are not unknown in animals.

Study of the normal lays the foundation for studying the abnormal. Already, extensive studies in normal and abnormal behavior are underway. Probably many of you know more than I do about the experimental work being done at some primate centers in this country. Through ethnology, at last a satisfactory method has been found for experimental study of psychological problems and mental disease. Is it unreasonable to expect an explosion of knowledge comparable to that which followed the demonstration of the germ theory of disease? I believe that it is here that we shall see the most revolutionary developments in medicine during the remaining third of the 20th century.

Ladies and gentlemen, these are some of my thoughts about the future of comparative medicine. Before ending, I would like to touch on some practical points, because ideas are of little use if we don't try to do something about them.

You may wonder what part WHO is taking to help bring about these developments of Comparative Medicine. The Organization's activities fall under three headings: 1) stimulation, 2) coordination and 3) education.

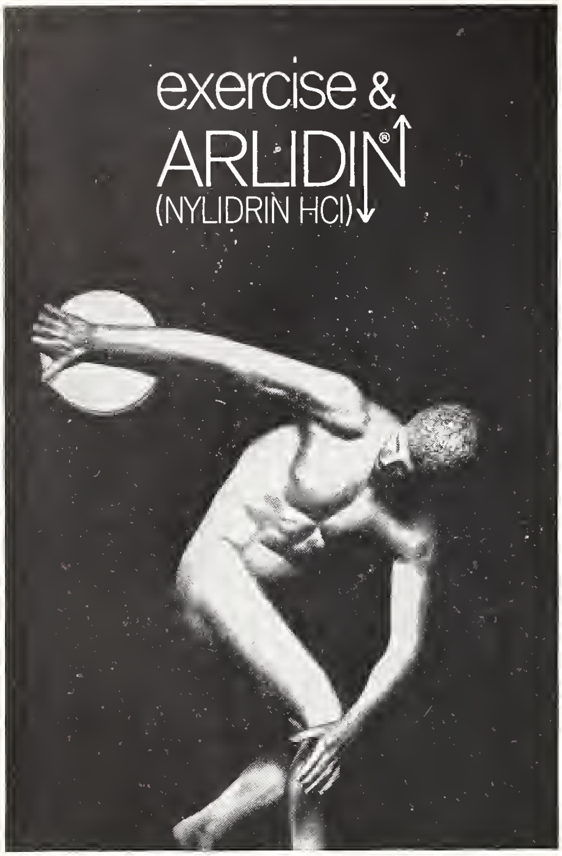
1. Stimulation of interest and activity in selected subjects is accomplished by organizing meetings of various sorts, by arranging for papers to be given at congresses, by publication of papers and bibliographies, by visits of consultants to veterinary schools and other institutions and, of course, through individual contacts. Generally, veterinarians and medical men are receptive and are willing to take up comparative studies within their capacities. A number of small "pump priming" grants are made to get particular projects going. The subjects in which investigations are encouraged are carefully selected, special consideration being given to those in which there is a need for comparative studies to supplement research on major medical problems, *e.g.*, atherosclerosis, or which look particularly promising, *e.g.*, leukemia in animals.

2. Coordination is accomplished through arranging meetings, arranging and financing visits between scientists, publication of lists of workers in various fields, support of international groups with appropriate interests and simply by putting people in touch with each other. Basic to much of WHO's work on coordination is the working out of agreed classification and nomenclatures, reference standards, etc. A number of reference and collaborating centers have been established.

3. Education consists of making more widely known the opportunities which comparative medicine offers and arranging for experts to give papers at meetings and write review articles. WHO awards a limited number of training grants. Under education, we include symposia on specific subjects such as some aspects of cardiovascular disease or the use of primates in medical research.

It must be remembered that WHO has responsibilities over a vast field and can only devote a very modest fraction of its resources to comparative medicine. Its activities must, therefore, be of a catalytic nature, *i.e.*, helping others to do the work.

Reprint requests should be addressed to D. C. Blenden, D.V.M., School of Veterinary Medicine, Section of Veterinary Public Health, University of Missouri, Columbia, Mo. 65201.



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• • •

Updated lists of AMA approved or accredited schools, revised to September 15, 1967, are now available from the AMA Department of Allied Medical Professions and Services. Included are AMA approved schools of cytotechnology, inhalation therapy, x-ray technology, physical therapy and medical technology, approved courses in occupational therapy and accredited schools for medical record librarians and medical record technicians.

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The AMA is encouraging state and local medical societies, wherever appropriate, to participate in Poison Prevention Week programming, March 17-23.

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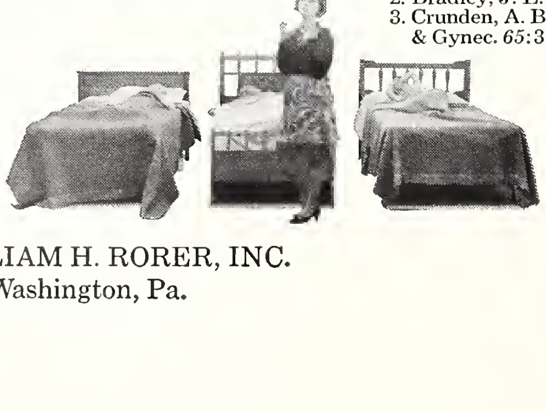
1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



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Preliminary Program

110th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 28-31, 1968**

Thursday, March 28

12:00 NOON Registration of Delegates.
2:30 PM House of Delegates Meeting, opening session.
4:30 PM Reference Committee meetings.

Friday, March 29

8:00 AM Registration.

9:00 AM *Government in Medicine.* (Sponsored by the MSMA Committee on Medical Economics.)
Moderator: Rae W. Froelich, M.D., Lebanon.
1. *Medicaid in Missouri,* Mr. Proctor Carter, Director, Division of Welfare, Jefferson City.
2. *The Cost Benefit Theory,* William Bryant, Ph.D., University of Missouri School of Medicine, Columbia.

9:00 AM *Program on Space Medicine* (To be announced).

10:30 AM Intermission to view exhibits.

11:00 AM *Continuation of Medical Economics Program* (Government in Medicine).
1. *The Practice of Medicine Today and Tomorrow,* Mr. Wayne Conwell, Professional Management Consultant, St. Louis.
2. *The Case for the Corporate Practice of Medicine,* Mr. William Boles, Attorney, St. Louis.

11:00 AM *Prevention of Rh Iso-Immunization by the Use of Anti D Antibodies,* Eugene G. Hamilton, St. Louis. (Sponsored by the MSMA Committee on Maternal Welfare.)

12:00 NOON Fifty-Year Club Luncheon.
Committee on Maternal Welfare Luncheon.
General Luncheon: *Computer Medicine,* Vernon E. Wilson, M.D., Executive Director for Health Affairs, University of Missouri, Columbia.

2:00 PM General Surgical Session. (Sponsored by the Missouri State Surgical Society.)
Surgical Indications for Hiatal Hernia Repair, O. T. Clagett, M.D., Rochester, Minnesota.
Symposium on Biliary Tract Surgery
Moderator: John A. Growdon, M.D., Kansas City.
Panel Participants:
O. T. Clagett, M.D., Rochester, Minn.
Alan Thal, M.D., Kansas City, Kansas.
William Monafo, M.D., St. Louis.
Hugh E. Stephenson, Jr., M.D., Columbia.

2:00 PM *Pediatric Shiskabob* (Sponsored by the Missouri Chapter, American Academy of Pediatrics).
Moderator: C. Read Boles, M.D., Clayton.
Panel Participants:
Selected Aspects of Head Injury in Children, Philip R. Dodge, M.D., St. Louis.
The Study and Treatment of Intravascular Coagulation in Children, Arthur E. McElfresh, St. Louis.
Diseases Which Masquerade as Asthma in Children, George B. Logan, M.D., Rochester, Minn.

2:00 PM *Do's and Don'ts in Establishing Your Community Hospital's Cardiovascular Care Unit.* (Sponsored by the Missouri Regional Medical Program and the Missouri Chapter, American College of Chest Physicians.)
Moderator: Glenn O. Turner, M.D., Springfield.
Panel Participants:
Cecil R. Auner, M.D., Springfield.
Loren E. Broaddus, M.D., Springfield.
J. William Cheek, M.D., Springfield.
Thomas E. Cochran, Jr., M.D., Springfield.
Oral B. Crawford, M.D., Springfield.
John J. McKinsey, M.D., Springfield.

Subject matter to be discussed includes:
- A. *Feasibility.*
- B. *Costs.*
- C. *Financing.*
- D. *Equipment Selection, Unit Size and Location.*
- E. *Training Programs.*
- F. *Limitations.*

3:30 PM Intermission to view exhibits.
4:00 PM House of Delegates, second session.
5:30 PM Missouri State Medical Foundation Annual Meeting.
6:00 PM Reference Committees.

Saturday, March 30

8:00 AM Registration.

9:00 AM *Management of the Failing Heart.* (Sponsored by the Missouri Heart Association.)

Moderator: Albert M. Estes, M.D., Cape Girardeau.

Panel Participants:
1. *Treatment of Right and Left Heart Failure,* Robert J. Adolph, M.D., Cincinnati, Ohio.
2. *Arrhythmias in Acute Myocardial Infarction,* Peter C. Gazes, M.D., Charleston, S. C.

9:00 AM *Medicine and Religion.* (Sponsored by the MSMA Committee on Medicine and Religion.)

Moderator: Rev. Paul B. McCleave, Director of the AMA Department of Medicine and Religion, Chicago, Illinois.

Panel Participants:
- R. Paul Ferguson, M.D., Lake City, Iowa.
- Loyal W. Combs, Jr., M.D., Lafayette, Indiana.
- Rev. Thomas F. Zimmerman, D.D., Springfield.
- Robert M. Myers, M.D., D.D., Kansas City.

Topics to be discussed:
- A. *Alcoholism.*
- B. *Drug Addiction and Drugs on the Campus.*
- C. *Contraceptives and the Co-Ed.*

9:00 AM *Pediatric Ophthalmology.* (Sponsored by the Missouri Ophthalmological Society.)

Moderator: Stephen F. Bowen, Jr., M.D., St. Louis.

The Importance of Early Diagnosis of Strabismus, Gunter K. von Noorden, M.D., Baltimore, Md.

Congenital Cataracts and the Use of Contact Lenses in Children, Harry R. Brady, M.D., St. Louis.

Congenital Glaucoma, Alan E. Kolker, M.D., St. Louis.

Congenital Anomalies of the Eye, Carl H. Ide, M.D., Columbia.

Simple Test for Fusion in Young Children, Samuel T. Jones, M.D., Kansas City.

10:30 AM Intermission to view exhibits.

11:00 AM *Emergency Care and Transportation of Injured in Missouri.* (Sponsored by the Missouri State Committee on Trauma of the American College of Surgeons.)

Moderator: Franklin L. Mitchell, M.D., Columbia.
1. *How Good Is Ambulance Service in Missouri,* Marjorie Dale, M.D., Columbia.
2. *The Ambulance—Minimal Versus Optimal Standards,* Marshall Conrad, M.D., St. Louis.
3. *The Ambulance Attendant—How Much Can Be Accomplished?,* Hugh E. Stephenson, Jr., M.D., Columbia.
4. *The Training of the Ambulance Attendant,* John L. Barnard, Jr., M.D., Kansas City.

Summation—Oscar Hampton, M.D., St. Louis.

11:00 AM *Management of the Anxious Patient.* (Sponsored by the Missouri Academy of Psychiatry.)

Moderator: Retus W. Osborn, III, M.D., Farmington.
1. *Psychotherapeutic Approach to the Management of the Anxious Patient,* Charles B. Wilkinson, M.D., Kansas City.
2. *Pharmacological Approach to the Management of the Anxious Patient,* Joseph W. Lamberti, M.D., Columbia.
3. *Management of the Anxious Patient by the Family Physician,* Douglas Goldman, M.D., Cincinnati, Ohio.

11:00 AM *The Office Practice of Internal Medicine.* (Sponsored by the Missouri Society of Internal Medicine.)
Moderator: John I. Matthews, M.D., Jefferson City.
Panel Participants:
Dwight L. Wilbur, M.D., San Francisco, Calif., Special Guest Panelist.
Insurance Coverage of Office Procedures, Frank M. Maple, M.D., Springfield.
Periodic Examinations and Multi-Phasic Screening, William D. Perry, M.D., St. Louis.
Some Medical Aspects of Commercial Aviation, Albert I. Decker, M.D., Kansas City.

12:30 PM Missouri University Alumni Luncheon.

12:30 PM General Luncheon, Dwight L. Wilbur, M.D., San Francisco, President-Elect, American Medical Association, Guest Speaker.

2:30 PM *Symposium on Lower Extremity Amputee.* (Sponsored by the Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine, Columbia.)
Moderator: Lester Wolcott, M.D., Columbia.
Panel Participants:
Comprehensive Management, Lester Wolcott, M.D., Columbia.
Geriatric Amputee, Victor C. Schell, M.D., Columbia.
Case Presentation
Panel: Victor C. Schell, M.D.
Robert W. Allen, M.D.
Raymond Hogue, Ph.D.
James Verhoff, C.P.
Daniel Haney, C.P.
Immediate Post-Surgical Fitting—Lecture and Demonstration.
Panel: Robert W. Allen, M.D.
James Verhoff, C.P.
Daniel Haney, C.P.

2:30 PM *Symposium on Complex Intraabdominal Problems.* (Sponsored by the Department of Surgery, Washington University School of Medicine, St. Louis.)
Moderator: Walter F. Ballinger, II, M.D., St. Louis.
Panel Participants:
1. *Management of Postgastrectomy Syndromes,* Walter F. Ballinger, II, M.D., St. Louis.
2. *Aorto Iliac Occlusive Disease,* Harvey R. Butcher, Jr., M.D., St. Louis.
3. *Severe Intraabdominal Trauma,* John A. Collins, M.D., St. Louis.

2:30 PM *Symposium on Radioactive Isotopes.* (Sponsored by the Department of Radiology of the St. Louis University School of Medicine, St. Louis.)
Moderator: Don C. Weir, M.D., St. Louis.
1. *Radioisotopes, Scintiphotos and Scans*—In Diagnosis, John L. Bircher, M.D., St. Louis.
2. *Paranasal Sinuses*—Roentgen Evaluation, James M. Martin, M.D., St. Louis.
3. *General Vascular Radiology,* Sumner Holtz, M.D., St. Louis.

4:00 PM Intermission to view exhibits.

7:15 PM Annual Banquet honoring Past Presidents of MSMA.
Guest Speaker: Bill Vaughan, Kansas City.
Social Hour for those attending the Banquet at 6:30 PM
Dancing until Midnight.

Sunday, March 31

7:30 AM House of Delegates Meeting, breakfast and final session.

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Volume 65, Number 2—February, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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WILLIAM L. DONEGAN, M.D., ***Columbia***

An Experience With Extended Radical Mastectomy for Mammary Carcinoma

Extending the standard radical mastectomy to include removal of the ipsilateral internal mammary lymph nodes for the primary treatment of mammary carcinoma is based upon sound considerations. First, the primary lymphatic drainage of the breast is not only to the axillary but, also, to the internal mammary lymph nodes.[1] Furthermore, metastases are present in the internal mammary lymph nodes in one-quarter to one-third of surgical cases and are left behind if only the standard radical mastectomy is performed.[2-4] Finally, it is technically feasible to remove routinely the internal mammary nodes en bloc with the usual radical mastectomy specimen.

Cancer which remains in the internal mammary nodes could constitute the only cause of surgical failure in some cases. Through retrograde lymphatic flow, it also is potentially responsible for the post-surgical reappearance of cancer in the surgical area. Improved cure rates and reduced chest wall recurrences, however, have varied in the observations of surgeons employing the routine removal of these nodes.[5-7]

An extended radical mastectomy entailing en bloc removal of the ipsilateral internal mammary lymph node chain has been performed for mammary carcinoma at the Ellis Fischel State Cancer Hospital upon a number of occasions during the past five years. The present report is of the experience obtained with these cases and a statistical comparison of their survival and rate of local recurrence with those of matched cases treated with the standard radical mastectomy. In view of the conflicting reports in the literature concerning the value of the extended operation, it was considered useful to report this experience.

Materials and Methods

All patients were women hospitalized for mammary carcinoma at the Ellis Fischel State Cancer Hospital. Originally, the extended operation was performed at this institution only when the primary cancer was situated in the medial quadrants of the breast. Later, it was often used irrespective of the location of the primary. The surgical technique was a removal of the ipsilateral internal mammary vessels, lymph node chain, underlying parietal pleura, a narrow strip of the lateral sternum and the costal cartileges and medial ends of the second to the fourth or fifth ribs. This tissue was removed in continuity with the breast, pectoral muscles and axillary contents. The technique was similar to that described by Urban, but entailed sacrifice of shorter segments of the ribs and resulted in a smaller chest wall defect.[8] The chest wall defect was repaired with a variety of methods, but usually the skin flaps alone were used to cover the defect. Suction catheter drainage was used under the skin flaps. All surgical specimens were

Metastatic cancer in the internal mammary nodes of patients with mammary carcinoma may be the source of some surgical failures and of chest wall recurrences. The appeal of the extended radical mastectomy is that it includes primary removal of these potentially involved nodes. The author describes a study of 34 patients treated thusly at Ellis Fischel State Cancer Hospital and reports the results with respect to their survival and rate of local recurrence compared with control series of patients treated with the standard radical mastectomy and matched to a number of clinicopathologic variables. Although preliminary data presented suggest that the extended operation may produce improved long term survival and freedom from local recurrences, comprehensive controlled studies are needed to establish its value. Doctor Donegan is Surgeon at Ellis Fischel State Cancer Hospital and Assistant Professor of Surgery, University of Missouri Medical Center. This study was supported in part by U. S. Public Health Service Grant No. CA-08023-04.

examined with routine microscopic sections for the presence of metastases to the axillary and the internal mammary lymph nodes.

A total of 34 women were treated with the extended operation, one of which also included removal of cancer-free supra clavicular lymph nodes. Their ages ranged from 22 to 79 years, with a median of 57 years. Three patients who had prophylactic oophorectomies, and one whose pectoralis major muscle was preserved, were not considered in the calculations of survival or recurrence rates. Prophylactic irradiation was not used postoperatively. The results in the 30 cases that had no adjuvant therapy or compromise of the procedure were compared with those in two control groups of 30 cases, each treated with a standard radical mastectomy. All controls had been followed for a minimum of five years. To date, only seven of the patients with an extended mastectomy have been followed for longer than two years and only three have been followed for five years. In order to make the groups more comparable and in an attempt to equalize the probability of metastases to internal mammary nodes, the control groups were matched to the extended mastectomy group for four important clinicopathologic variables. Each patient in each control group was carefully matched with each in the extended mastectomy group for age in years, the size (diameter in centimeters) of the primary tumor as measured by the pathologist, the location in the breast (quadrant) of the primary cancer and the presence of axillary metastases histologically. This was done by dividing more than 700 cases treated with radical mastectomy between 1940 and 1958 into the categories to be matched and, then, randomly drawing the appropriate number of cases from each without prior knowledge of results. Two separate control groups were drawn in order to provide some indication of the variation in results which might be expected from treatment. Patients in one control group were not included in the second. No form of surgical adjuvant therapy had been used.

Survival rates were determined by the actuarial method. Chest wall recurrences, documented in most instances by biopsy, were determined as both yearly interval percent and as cumulative percent of cases at risk. Survival rates and recurrence rates were analyzed for differences by means of Chi square tests.

RESULTS

Complications

There were no hospital deaths among the 34 cases treated with the extended mastectomy, although patients were as old as 79 years. A postoperative pneumonitis was diagnosed in two instances, mild atelectasis in one and a small pleural effusion requiring no treatment in four. The most serious complication was a dehisence of one wound which occurred when the skin stitches were removed on the ninth postoperative day and which resulted in a massive pneumothorax. The pleura had not been closed in this case at the time of surgery. This complication was treated successfully with a chest tube and reclosure of the skin flaps. Marlex mesh was used to repair the chest wall defect at the time of surgery in four cases. Two of these became infected. One was removed. The other was drained and became associated with chronic sinus tracts. Cultures produced staphylococcus albus and B. subtilis, respectively.

Metastases

One-third (11) of the 34 cases had metastatic cancer in the resected internal mammary lymph nodes. No such metastases were documented from tumors less than three centimeters in diameter although four of this size were present in the study, all of which were located in the centro-medial portion of the breast and one of which had produced axillary metastases. In two cases, cancer was found in the portion of the sternal bone that was removed and, in another, metastatic cancer was found in the perinodal fat in addition to the lymph nodes themselves. It was in anticipation of such aberrant deposits that the resection routinely encompassed a wide margin of surrounding tissue including bone, pleura and vessels.

The frequency of involvement of the axillary and internal mammary nodes is shown in Table 1. Fifty-nine percent of the 34 cases had metastatic cancer in the axillary nodes and, in 45% of these, there was also parasternal involvement. In only 6% of cases were the internal mammary nodes alone involved.

TABLE 1

THE FREQUENCY OF REGIONAL LYMPH NODE METASTASES—34 CASES OF MAMMARY CARCINOMA

Lymph Node Groups With Metastases	*No. of Cases*	*% of Cases*
None	12	35
Axillary Alone	11	32
Int. Mammary Alone	2	6
Ax. and Int. Mammary	9	27

The incidence of metastases to the internal mammary lymph nodes with respect to the location of the primary in the breast and the presence of metastases in the axillary nodes is shown in Fig. 1. The parasternal nodes were involved most frequently when the primary was situated in the medial portion of the breast and axillary metastases were present. The greatest changes in incidence occurred with change in the involvement of axillary nodes, rather than with change in location of the primary from the medial to the lateral portion of the breast, indicating that the lesion's ability to produce lymphatic metastases rather than its location is probably the more reliable determinant of parasternal node involvement.

Survival

The survival characteristics of patients treated with the standard radical mastectomy and with the extended mastectomy is shown in Fig. 2. It is notable that the two control groups were remarkably similar in their survival characteristics. This serves to illustrate the reliability of results when even small groups of similarly treated cases are comparable with respect to important clinicopathologic variables.

For the first two postoperative years, the survival of patients treated with extended mastectomy fell within or below the variation demonstrated by the control groups. After this time, the extended mastectomy group appeared to show superior survival. When the groups were divided into cases with and without axillary lymph node metastases, the superior late results were more marked in the group with axillary lymph node metastases than in the group without (Fig. 3).

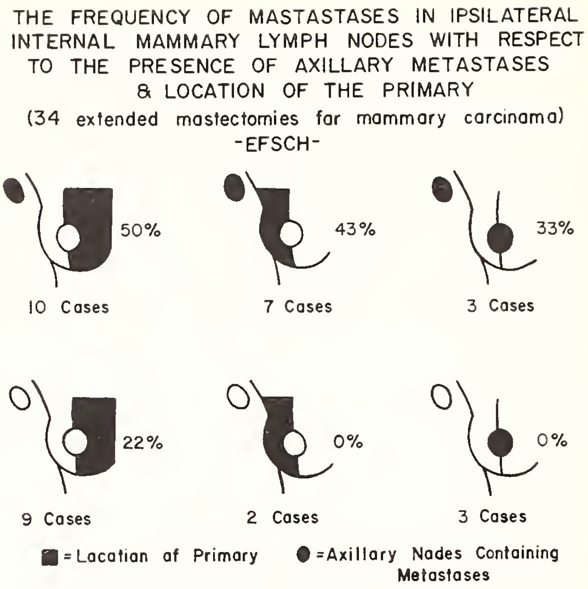
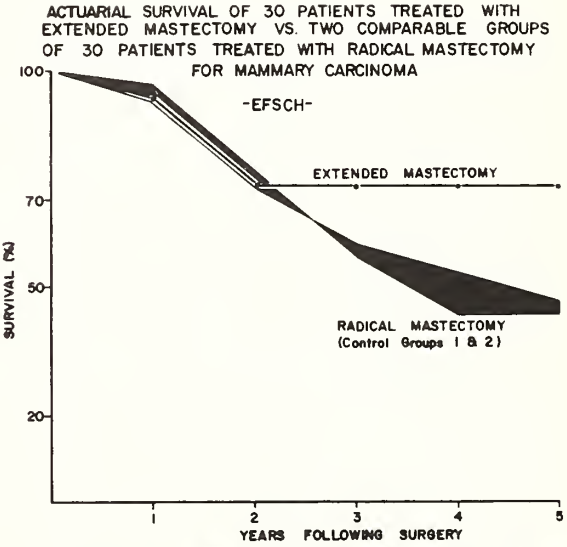
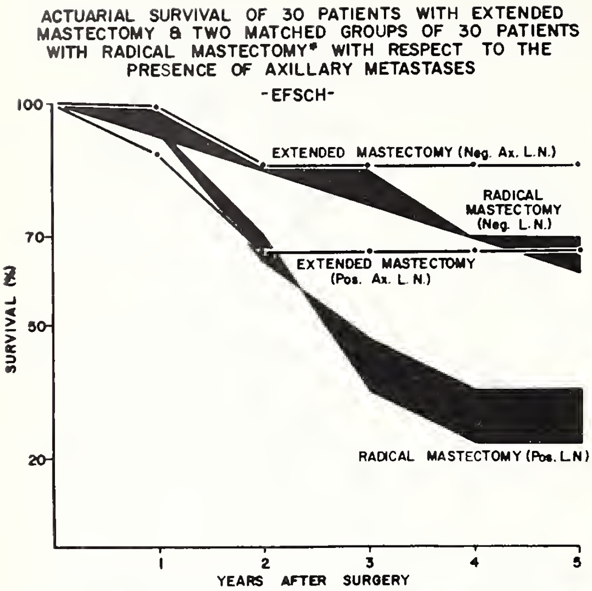

THE FREQUENCY OF MASTASTASES IN IPSILATERAL INTERNAL MAMMARY LYMPH NODES WITH RESPECT TO THE PRESENCE OF AXILLARY METASTASES & LOCATION OF THE PRIMARY
(34 extended mastectomies for mammary carcinoma)
-EFSCH-
50%
10 Cases
43%
7 Cases
33%
3 Cases
22%
9 Cases
0%
2 Cases
0%
3 Cases
= Location of Primary
= Axillary Nodes Containing Metastases

Fig. 1



*Groups matched for tumor size & location, presence of axillary metastases and patient age.

Fig. 2



*Groups matched for tumor size & location, presence of axillary metastases and patient age

Fig. 3

Again, there was little difference in the early years. Despite the improved late survival, Chi square tests applied to these various survival curves failed to demonstrate significant differences between the extended mastectomy and the control groups either for general survival (Chi square = 3.10, $p > .50$) or when divided according to the presence and absence of axillary lymph node metastases (Chi square = 4.01, $p > .50$ and Chi square = 0.84, $p > .95$, respectively).

Local Recurrence

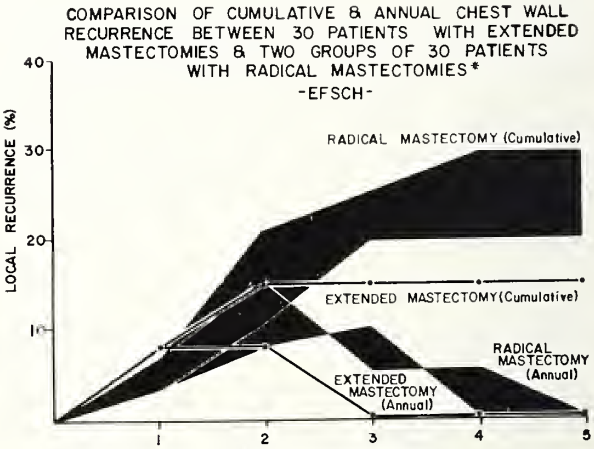
All instances of recurrent cancer in the surgical area, dermal nodules as well as parasternal subcutaneous mounds (perhaps representing internal mammary lymph nodes enlarged by metastatic cancer), were considered local recurrences. Three patients developed local recurrences after the extended operation: one on the medial flap, one at the periphery of the skin graft and the third at an unspecified site on the chest wall. This result is compared with the control groups in Fig. 4. In the first two post surgical years, local recurrence rates were practically identical, but the extended group showed a lower annual and cumulative rate of recurrence after this time. Again, Chi square testing failed to show a significant difference between the two groups of cases (Chi square = 1.06, $p > .90$).

Discussion

This preliminary experience with the extended radical mastectomy confirms observations of others with respect to the incidence of cancer in internal mammary lymph nodes and the feasibility of its removal. It also confirms that synthetic materials are neither necessary nor particularly desirable for bridging the bony chest wall defect produced by the operation.[9] The operation can be accomplished even in elderly patients providing their general condition is reasonably sound. Minor pulmonary problems, perhaps, are more often encountered than after the standard radical mastectomy, but serious complications are no more frequent if certain precautions are taken. These include leaving skin sutures in place for 12 to 14 days to allow secure healing of the skin flaps and closing the parietal pleura as an added precaution.

Despite its feasibility and its logical appeal, the extended mastectomy has not rewarded its users uniformly with results obviously superior to those of less extensive surgical methods for treating mammary carcinoma. Furthermore, no results of a prospective, controlled study designed to establish its effectiveness in comparison with the standard radical mastectomy have appeared in the literature. The limited experience at this institution with 34 cases so treated as yet has not substantiated an improved overall cure rate or a diminished rate of local recurrence when compared with matched radical mastectomy controls. After the second year of follow-up, the extended operation did appear superior in both categories, but this difference could not be confirmed by the tests which were applied. If a difference does exist, either more cases or a longer follow-up are needed to establish it with confidence.

(*Continued on page 115*)



*Groups matched for tumor size, quadrant, presence of axillary metastases and patient age.

Fig. 4

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C. KEITH WHITTAKER, M.D., ***Kansas City***

Herniated Nucleus Pulposus in a 10-Year-Old Girl

Case Reports

Lumbar disk disease often is thought of as a degenerative process of middle life precipitated by a single or repeated minor trauma and, indeed, the highest incidence occurs among persons in their 30's and 40's.[1] Unfortunately, the notion of an exclusively degenerative pathogenesis has diverted attention from the fact that this process is at times found in children and adolescents. Indeed, chronological aging probably plays only a minor role in the etiology, which remains obscure. For instance, Levy,[2] who found a low incidence of disk disease among Africans, attributed this in part to greater spine mobility in the Negro population. Others have described rupture of the annulus fibrosus in conjunction with inflammatory disease of the disk itself.[3] Whatever the cause, lumbar disk protrusion is by no means restricted to the post-puberty population.

The case presented here is of a 10-year-old girl who suffered a nerve root compression from herniation of the L5-S1 intervertebral disk on the right. Although this patient is one of the youngest whose lumbosacral disk disease has been reported in the literature to date, the entity is being recognized with increasing frequency in this age group. It is hoped that this communication will underscore the necessity of including this disorder in the differential diagnosis of back pain in children and adolescents.

Case Report

A 10-year-old caucasian girl was first hospitalized at Children's Mercy Hospital in Kansas City on Nov. 10, 1966, complaining of right hip and posterior thigh pain of gradual onset over the previous five days. The pain was increased by dorsiflexion of the foot and, also, by flexion of the thigh while the knee was extended. The right Achilles reflex was decreased. There was no history of trauma, although about three months earlier she had suffered an acute illness involving abdominal pain and vomiting and had complained briefly of a sharp pain in the right foot. She was discharged on Nov. 22, 1966 with a diagnosis of sciatic neuralgia.

One week later, she was readmitted with right paravertebral muscle spasm and associated scoliosis. She had definite weakness of the gastrocnemius, extensor digitorum communis and peroneals on the effected side. The pain now extended to the calf, but was not altered by coughing or sneezing. There was no sensory loss. Straight leg raising was positive at 20° on the right, and when the left leg was raised 50°, right sciatic pain was noted. Spinal fluid protein was 33 mg % and the erythrocyte sedimentation rate was not elevated. A myelogram was reported as normal. The patient was placed in traction with a bed board and was given muscle relaxants.

Ten days later, in the face of persistent disability, a hemilaminectomy was performed at L5-S1. The nerve root was found to be displaced by a large, laterally ruptured disk which extended medially to the mid-point of the spinal cord. The disk was removed. Post-operatively, the reflexes returned to normal and the muscle spasm subsided. Mild calf pain persisted for several weeks, but within two months the child was entirely asymptomatic.

Discussion

Prior to the classic work of Mixter and Barr[4] in 1934, there was little awareness of the syndrome associated with nerve root compression by a herniated nucleus pulposus. Since then, although this problem has received wide recognition among adults, it seldom has been thought of as a pediatric entity. The few discussions that have appeared in the literature begin with Wahren's[5] report in 1946 of a herniated nucleus pulposus in a child 12 years old. In 1954, Webb *et al*[6] reported on 6,500 cases surgically treated at The Mayo Clinic. Of these, 60 patients were under 18 years of age, but only five were 15 years or younger. The youngest was 12 years old. In 1960, Mandell[7] reported another example of a

In addition to presenting a case report of a 10-year-old girl who underwent surgery for a herniated nucleus pulposus, the authors review a brief history of the medical awareness of this syndrome and its more recent discovery in children. They include a general clinical discussion of signs and symptoms and laboratory data found in this condition. Finally, they urge correct surgical treatment when a short course of medical management has failed to produce improvement. Doctor Bidwell, who is a Resident in Psychiatry at the Kansas University Medical Center, was an Intern at St. Luke's Hospital in Kansas City at the time this paper was written. Doctor Whittaker is Attending Neurosurgeon at St. Luke's Hospital.

12-year-old and, in his discussion, mentioned F. R. Ford's[8] case of a 9-year-old child whose typical symptoms had been relieved following removal of an intervertebral disk protrusion. In 1964, Epstein *et al*[9] reviewed the literature on herniated lumbar disks in adolescents and noted that the incidence of 10- to 19-year-old patients among all those surgically treated for this lesion ranged from a high of 3.2% to a low of 0.9%. The youngest was 11 years old.

As was noted in The Mayo Clinic Series,[6] the physical signs are more extensive than the compliants in adolescents. Otherwise, the clinical features of this entity are the same for any age. Even so, back pain is the most universal symptom for children, as it is for adults. If it has sciatic projection, suspicion of a disk protrusion should be aroused. Although only about one-third of adult patients have a history of trauma,[10] a much higher percentage of children refer the onset of their symptoms to some form of back strain. There are no pathognomonic physical signs and the clinician must search for positive evidence of nerve root compression. Typically, the patient will have pain and a limp on the side of the lesion. This pain is made worse by coughing or sneezing or by straight leg raising. There may be loss of lumbar lordosis and limitation of motion. Some findings help to pinpoint the lesion, but again it must be emphasized that none is infallible.[11] In children, over half the lesions occur at L5-S1 and tend to produce hypalgesia of the lateral aspect of the thigh, leg and foot, weakness and wasting of the plantar flexors of the foot and a decrease in the Achilles reflex. The next most common lesion is found at L4-L5. With this herniation, pain is sometimes noted along the lateral aspect of the leg to the dorsum of the foot and the great toe. The dorsiflexors of the toes and foot may be weak and atrophic. In some instances, foot drop is present. Decrease of the knee jerk may be found in such L4-L5 lesions,[1] but is also noted with the infrequently occurring herniations of L3-L4. Occasionally, L5-L6 or multiple site herniations may be responsible for misleading nerve root findings.

X-rays of the spine are by no means diagnostic, but they do give an indication of degenerative changes or of other bone pathology, such as tuberculosis, spondylolisthesis or Marie Strumpell arthritis. Myelograms aid in the evaluation despite the fact that they occasionally may be misleading, as in the case here presented. The most frequent problem is a false negative for disk pathology at L5-S1. This has been explained partially by the fact that the canal in this area is much wider than at L4; consequently, a protrusion compressing the outgoing nerve may be in a lateral position without necessarily deforming the column of oil in the thecal cavity.[10] False negatives at L4 are fewer. Although clinical judgment was found in one study to be as accurate as myelography,[1] this procedure probably should always be done to rule out spinal cord tumors or other pathological entities and to indicate possible multiple disk lesions.

Among patients with back pain, elevated spinal fluid protein (above 40 mg %) is noted in about 60% of those with a protruded disk and in about 40% of those with no demonstrable nerve root lesion. No reliance, therefore, can be placed on this frequently misleading test.

Once the diagnosis has been made with reasonable certainty, an adequate trial of conservative therapy is worthwhile. Ninety per cent of adolescent "back strain" patients will respond to treatment consisting of bed rest on a firm mattress supported by a board, postural exercises and relaxant medications.[12] However, if the patient does not improve on this regimen within seven to ten days, surgical removal of the disk should be performed. The primary goal is decompression of the nerve root.

The prognosis for complete recovery is excellent, although when a reflex is lost for any appreciable period, there is only a 20% chance of its returning. Preoperative sensory deficit persists in about two-thirds of the patients.[9] Very few patients have a recurrence at the operative site, and hemilaminectomy has been found to be a highly satisfactory procedure.

Summary

The case of a 10-year-old girl whose herniated intervertebral disk was removed at surgery is presented, together with a review of the literature, to emphasize the fact that youth is not immune to this syndrome. Diagnosis and treatment are discussed. It is pointed out that, regardless of the patient's age, hemilaminectomy is the treatment of choice when conservative management does not rapidly produce improvement.

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Extended Radical Mastectomy (Cont'd)

There is skepticism that in controlled studies the extended mastectomy can prove itself a worthwhile advance in surgical therapy for carcinoma of the breast.[10] The fact that most reports to date have not given cause for optimism may indicate that when the internal mammary nodes contain metastases, the disease frequently has already become more widespread and is beyond the margins of even extended surgical excision. The cases in which these metastases are the sole cause of surgical failure and are, therefore, salvageable, may be few. That an appreciable number of such cases exists and that they are being benefited may become evident if sizable groups of treated patients which have been followed for sufficient time and have been carefully matched for multiple pertinent clinico-pathologic features are compared.

Summary

Preliminary results with a series of 34 cases of unilateral mammary carcinoma treated at the Ellis Fischel State Cancer Hospital with redical mastectomy combined with en bloc resection of the ipsilateral internal mammary lymph nodes are reported.

The survival characteristics and rates of local chest wall recurrence of this series are compared with those of matched controls treated only with standard radical mastectomy. This comparison between a relatively small number of cases does not demonstrate superior survival or reduced chest wall recurrence after the extended operation, but it does suggest that the long term results may prove differently. The technique of matching multiple variables employed promises to afford valuable information upon this important subject if applied comprehensively to larger and more mature series.

Acknowledgements: The author wishes to acknowledge the valuable assistance of the Biostatistics Department of the Cancer Research Center and, particularly, the help of Richard Leduc for statistical analyses.

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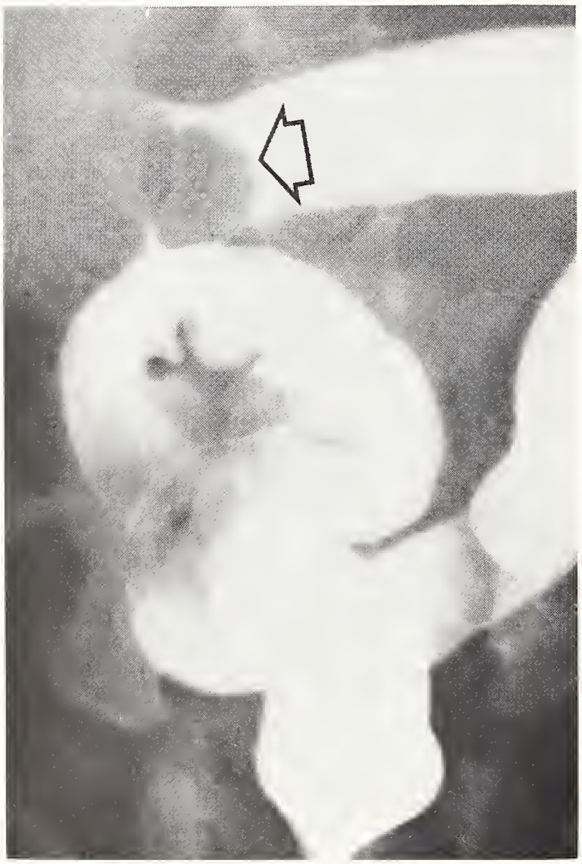
Simultaneous Surgical Abdomen of Physician and Son

Case Reports

"My baby has an intussusception," lamented the desolate wife of one of Central Missouri's most prominent practitioners as she handed her infant son to the family surgeon in the Emergency Room of the Burge-Protestant Hospital.

"Take care of Johnny first. I can wait," groaned Father as he clutched his left abdomen, "I simply have peritonitis."

Thus, commenced a unique drama in family emergency care unrivaled in the annals of this institution.



Case # 1. The previously healthy three-month-old male was hospitalized with a history of having vomited that morning's formula feeding. An examination by his father disclosed a palpable right abdominal mass. An enema produced a bowel movement containing much bright blood.

Following admission, the patient was sent directly to the Department of Radiology for a barium enema study. The fluoroscopist encountered a filling defect within the midtransverse colon consistent with the clinical impression of acute intussusception (Fig. 1).

Laparotomy confirmed the diagnosis of ileocolic intussusception. A simple manual reduction of the invagination was performed. No specific etiological factor was detected.

←

Fig. 1 The spherical filling defect causing complete retrograde obstruction to the barium column is the invaginated right colon, the intussusceptum. Spiral-like barium bands outline the dilated distal bowel being invaginated, the intussuscipiens. The intussusception was not reducible by hydrostatic pressure maneuvers.

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* Doctor Dietz is Director of Diagnostic Radiology at Burge-Protestant Hospital and Clinical Assistant Professor of Radiology at the University of Missouri School of Medicine.

Case # 2. When the 43-year-old physician hospitalized his son for acute intussusception, he already had experienced severe left abdominal pain for at least 24 hours. Physical examination revealed a boardlike abdomen, rebound tenderness and muscle guarding. Nevertheless, he refused hospitalization until 12 hours following his son's operation.

Admission chest and excretory pyelographic studies were non-contributory. A barium enema demonstrated a generalized diverticulosis with barium extravasation at the site of a splenic flexure diverticulitis (Fig. 2).

A left colectomy revealed a gangrenous perforating diverticulitis of the distal end of the splenic flexure. A single necrotic diverticulum was responsible. Additional diverticula were not identified.

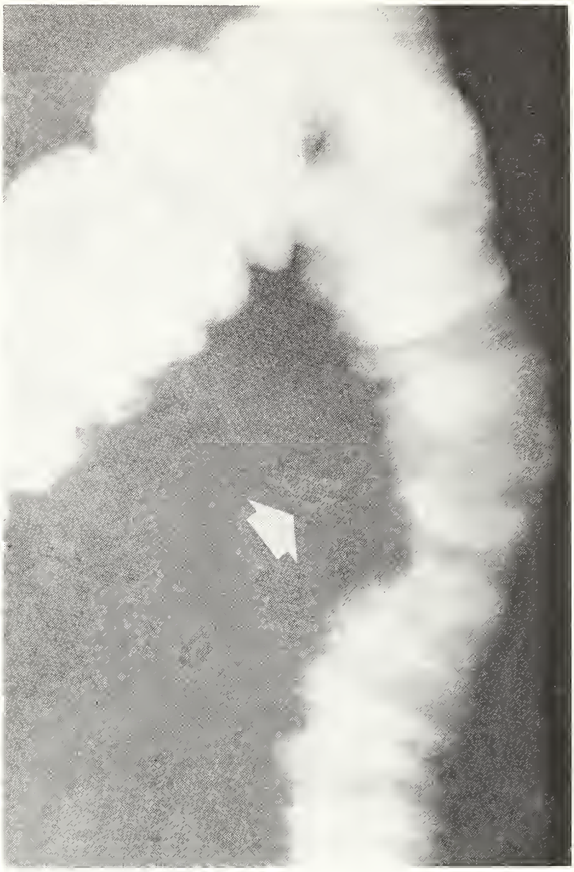

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Fig. 2 The shallow localized mural swelling on the inner aspect of the descending limb is typical of the acute paracolic inflammatory reaction of diverticulitis. Extruded barium (arrow) confirms the presence of diverticular perforation with a communicating abscess. Note the absence of opacified diverticula in this segment.

Addendum:

The post-operative course of these patients proved as diverting as the concurrent surgical crises. The little boy had an uneventful convalescence and was discharged in five days.

In the immediate post-operative period, the father reported signs of urinary retention and colon ileus. Next, he developed hematomas of the abdominal scar and scrotum and a left epididymitis. A peculiar bluish discoloration of the penis and left groin faded in 24 hours. A thrombosed vessel at the sole of the left foot was likewise transitory. Neither a right lower lobe atelectasis nor a left basal pleuritis were of impressive extent.

His hospital discharge apparently was less related to successful management than to a forthcoming animal show. Two days later, the father's prize bull won a trophy at the county fair.

The AMA announces the availability of the eleventh guide in the series, "Guides to the Evaluation of Permanent Impairment," developed by the Committee on Rating of Mental and Physical Impairment. It is entitled "Guides to the Evaluation of Permanent Impairment—the Reproductive and Urinary Systems." A limited number of copies of this guide may be obtained, without charge, upon written request to the Committee on Rating of Mental and Physical Impairment, 535 North Dearborn St., Chicago, Ill. 60610.

L. C. PONCE, M.D., ***Mount Vernon***

Evaluation of Diagnostic Aids in Bronchogenic Carcinoma

Since the incidence of primary malignancy of the lung has reached an almost epidemic proportion, most physicians can expect to see patients with this disease. Patients at the Sanatorium have been referred by physicians from almost every specialty who have been alert to suspect the disease. The overall five-year survival of patients is dismally poor. Only 6.5% are alive after five years.[1] This is due to two factors: first, in most cases the disease is seen in late stages and, second, even if found early, only 40% attain a five-year cure.[2]

More than 100 new cases of bronchogenic carcinoma are seen every year at the Missouri State Sanatorium. Most cases are so far advanced that only about one-third of the patients are thought to be suitable for surgery. Until a better method of treatment, such as an anti-cancer chemotherapy, is found, our only hope for increasing the overall survival rate is by early diagnosis. Early diagnosis is not always easy, as illustrated in the case in Fig. 1. It is with this thought in mind that we have reviewed the diagnostic techniques commonly used in the diagnosis of primary pulmonary malignancy.

The four techniques studied were chest x-ray studies, sputum cytology, bronchoscopy and scalene node biopsy.

Materials and Method

This is a retrospective study. All patients who had undergone thoracotomy from 1964 to March, 1967, are included in these studies. During this period, 374 new cases of bronchogenic carcinoma were treated at the Sanatorium. Of these, only 113 had undergone chest surgery. A detailed study was made of the diagnostic aids in correlation with the final tissue diagnosis on surgical specimens. The relative value of a procedure was determined by comparing the number of patients in whom it was positive with the number of patients tested. In the study of sputum cytology, each patient had at least five sputum specimens taken. In this study, patients with two or more Class III sputums were considered as having positive results. In studying the value of chest roentgenology, a study was made of the x-ray reading and the diagnosis or impression of the Senior Physician. In most cases, this involved only posterior-anterior and lateral views, which

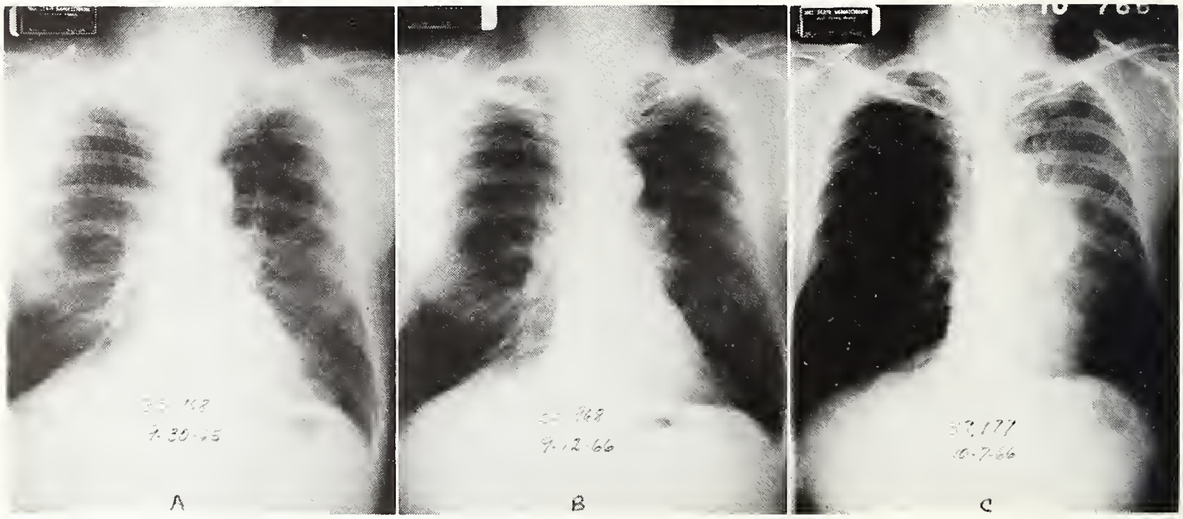

Fig. 1 (A) Slightly enlarged left hilum. (B) Same patient, one year later. Left hilum is more prominent. (C) Same patient 13 months later with definite mass in the left hilum. Thoracotomy revealed the lesion to be unresectable. *(Note: This case shows how mass in the hilum can easily be overlooked.)*

TABLE 1

NUMBER AND PERCENTAGE OF POSITIVE RESULTS OF THE FOUR DIAGNOSTIC TOOLS

Diagnostic Tool	*No. of Patients Tested*	*No. of Pos. Results*	*Percentage of Pos. Results*
Chest roentgenology	113	90	78.7
Sputum cytology	110	86	78
Bronchoscopy	107	41	38
Scalene node biopsy	13	2	16

are routine for all admissions. In a few cases, this included laminagrams, oblique views and other special techniques. The results are reported in Table 1 and are discussed under the subtopics of each diagnostic tool.

Roentgenology of the Chest

In spite of the many methods now used in the diagnosis of bronchogenic carcinoma, chest x-ray studies of the chest are still the best diagnostic aids in the diagnosis of pulmonary malignancy (Table 2). As indicated in this study (Table 1), chest x-ray is always employed; no patient with pulmonary disease can be adequately managed without it. The result of this study also showed that this procedure is of great value, paralleled only by sputum cytology studies. The disease was strongly suspected in 78.7% of all the patients studied. Of course, this figure would be more impressive if the percentage of false positive (incorrect diagnosis) were given. Alton Oschner, in his study of 848 personal cases of resected bronchogenic carcinoma, reported that a precise diagnosis was made by roentgenographic means in 82.4%.[3] His percentage of incorrect diagnosis was 13.5%.[4] In more than half of the cases, the disease can be strongly suspected by studying the lateral and posterior-anterior film of the chest; however, in a few cases lung cancer may present in many varied ways on the chest film, so that it rivals tuberculosis as a great masquerader. It is these cases that may tax the ingenuity of the most experienced physician. For example, in the case represented in Fig. 2, with a 10 cm mass in the chest x-ray, the diagnosis of pulmonary malignancy would be obvious to any physician. However, the effects of endobronchial obstruction in the lung, such as abscess (Fig. 3), unresolved pneumonia, atelectasis, obstructive emphysema and cavitation (Fig. 4), may require exhausting diagnostic workup with the use of most diagnostic tools currently available, including diagnostic thoracotomy. One of the most important advances in the last 15 years in the diagnosis of pulmonary disease is probably the more liberal use of diagnostic thoracotomy.

TABLE 2

THE FIVE MOST COMMON PATHOLOGIC CLASSIFICATIONS OF THE SERIES OF LUNG CANCERS STUDIED

	Percentage
Squamous epidermoid	61
Undifferentiated or anaplastic	11
Adenocarcinoma	10
Oat cell	5
Bronchoalveolar	3

There are a number of signs that can be helpful in the detection of pulmonary malignancy by x-ray studies. In this series the lesion was described to be in or near the hilar area in 63% of the cases. Because of the great variation in appearance of normal hilus shadows, interpretation of changes in the hilum may be difficult. If a previous film is available, it would be of great help. A lateral and, in a few cases, an oblique view may be of help in the study of the hilum. These views may show whether the shadow is truly in the hilum or merely superimposed upon

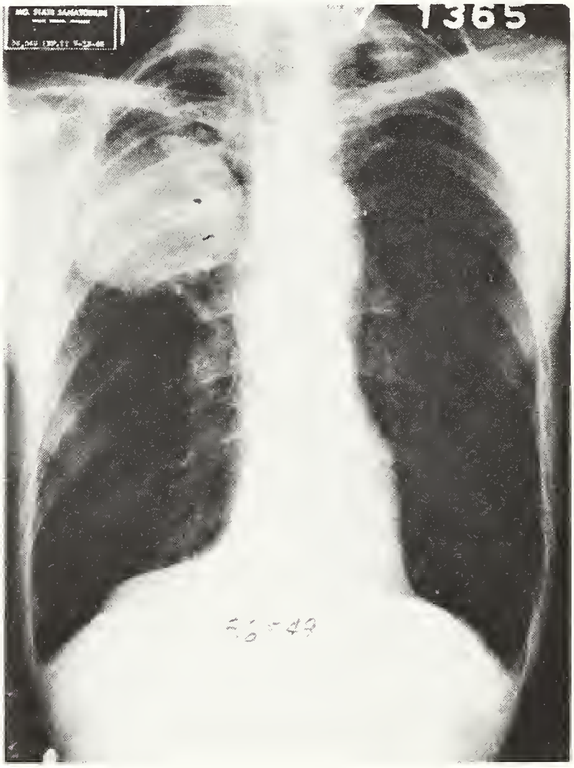

Fig. 2 A 10 cm mass occupying the right upper lobe.

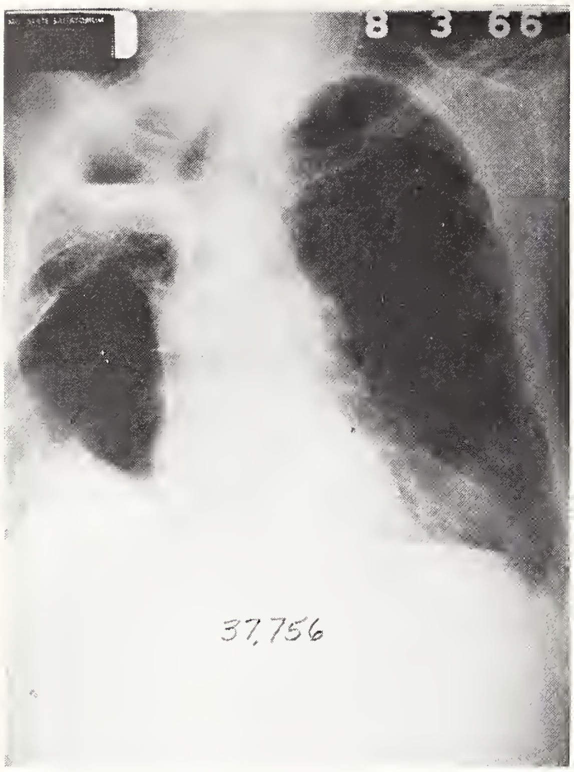

Fig. 3 Bronchogenic carcinoma with abcess formation.

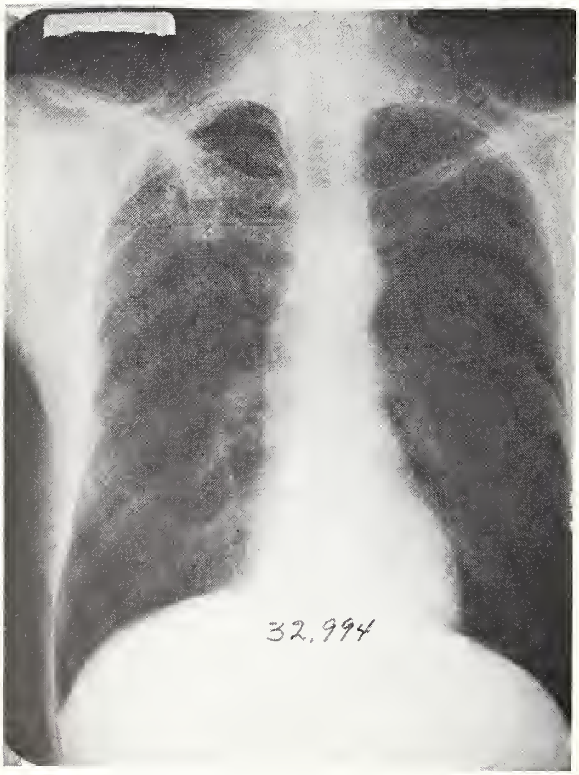

Fig. 4 Bronchogenic carcinoma with cavity formation in the right upper lobe.

it. Planigrams also may be used in these cases and are especially helpful when the mass is seen only on the lateral view. Another use of planigrams is in the study of a solitary pulmonary nodule. If a definite calcification is present, it would usually indicate it is of granulomatous origin, such as tuberculosis or histoplasmosis. Planigrams in these cases may show whether the calcification is actually in the mass or merely superimposed. Still another use of the planigram is in the identification of cavitation where it may be obscured by dense infiltrations.

Rigler has described two signs which could be helpful in the study of hilar enlargement. One is the obliteration of the clear area between the major branches of the pulmonary artery and mediastinum which usually does not occur in other causes of hilar enlargement, except that seen in carcinomatous enlargement.[5] Another point he discusses is that, in doubtful cases, a disproportion of the transverse diameter of the two hila of more than 1.7 cm, measuring from the midline to the outer border of the large vessel, is of great significance, and should lead to a more intense investigation.[5, 6] It probably should be pointed out at this point that in hilar lesions, the sputum cytology is usually positive. If there is any question about the hilus shadow, five separate sputum specimens should be taken for cytologic studies. X-ray and cytologic studies are complementary methods. Peripheral lesions are more likely to be negative on sputum cytology, but they can be seen more easily on chest x-ray. Hilar lesions are usually difficult to see and interpret on x-ray, but they are likely to be positive on sputum cytologic studies.

In the study of pulmonary nodules, Rigler again has pointed out a sign which could be highly suggestive of malignancy. This is called "notching" or "umbilication" in the margin of the shadow.[7] This is usually not seen on the posterior-anterior view, but can be clearly seen on planigrams. Of course, the absence of notching should not exclude malignancy. Most of the other signs of bronchogenic carcinoma are due to obstructive process in the bronchus. If the obstructive process is complete, it is followed by atelectasis of the segment or lobe involved. Since no air is able to enter into the occluded segment, the air present in the occluded segment becomes absorbed. On x-ray, atelectasis usually is seen as a triangular-shaped, homogeneous shadow with the apex pointing toward the lesion. Atelectasis in an elderly male should always be considered as a sign of bronchogenic carcinoma and worked up as such until proved otherwise. It is in this type of lesion that bronchoscopy and bronchogram can be of help. Stenosis or complete obstruction may be seen in the segmental bronchus. If the lesion is in the lobar division, it can be seen by bronchoscopy and the mass biopsied.

Abscess and pneumonia also are caused by bronchial obstruction. They are treated vigorously by medical regimen. If still present in four to six weeks and the patient is able to tolerate surgery, surgery is recommended. In the meantime, if the sputum cytology is positive, surgery, of course, is recommended at a much earlier date. The importance of preservation of chest x-ray films cannot be over-emphasized, because the appearance of any changes in the hilum or the appearance of a round lesion in an adult can be strong evidence of malignancy. Some subtle changes in the appearance often can be detected only by careful comparison with previous chest x-rays. If doubt still exists and it is decided not to operate on the patient, follow-up chest x-ray every three months should be done. Rib destruction is, of course, an obvious sign of malignancy. This sometimes can be overlooked by casual view of the film. If rib destruction is in the anterior two-thirds of the rib, the possibility of resection still can be considered. In this case, a chest wall resection is done, together with pulmonary resection. Malignant cavitation usually is difficult to differentiate from a granulomatous process; however, the wall of a malignant cavitation is usually thicker, and even nodular. Because of the many faces which bronchogenic carcinoma presents on chest x-ray, it is well to remember Oschner's maxim, that any unilateral lesion in a patient more than 40 years of age should be considered neoplastic until proved otherwise.[4]

SPUTUM CYTOLOGY

This study shows that five separate sputum cytologic studies are almost as accurate as chest x-ray in the diagnosis of lung cancer, being positive in 78% of the patients tested. The incidence of false positive is extremely low; in the series reported, the incidence was only 1%.[8, 9] There are two main disadvantages of sputum cytology as a screening method. First, when no lesion can be demonstrated on x-ray in patients with positive cytology, one cannot localize the site of the lesion. Second, this examination can be used only in patients who are able to raise sputum. One of the most important steps in the examination is the proper instruction of patients. The specimen is taken early in the morning before breakfast. The patient is asked to take several deep breaths and to cough into the specimen cup. He also is told that we are interested in the sputum that comes from deep inside, and not his saliva. If this specimen is inadequate, the patient is given treatment with a heated nebulizer before obtaining the coughed specimen.

Noting that early diagnosis is currently the most effective means of increasing the overall survival rate of the increasing number of patients with bronchogenic carcinoma, the author compares the values of preoperative procedures. Diagnostic tools studied include chest x-rays, sputum cytology, bronchoscopy and scalene node biopsy. He presents the percentage of positive results with the evaluation and discussion of each procedure. Doctor Ponce is from the Department of Surgery, Missouri State Sanatorium.

Another very satisfactory method is to collect the sputum immediately after bronchoscopy. Two smears are taken on the five daily specimens. Mucoid or purulent-looking material or blood flecks are chosen. The solution is fixed for a minimum of 15 minutes in 95% alcohol and 3% glacial acetic acid. The routine Papanicolaou method of staining is used. The report is given as Class I to Class V, depending upon the type of cell found (Table 3). The value of sputum cytology for detecting lung cancer seems to be firmly established. We have been happy with

TABLE 3

GRADES OF CELL PATHOLOGY (ACCORDING TO PAPANICOLAOU)

Class I	Absence of atypical or abnormal cells	Negative
Class II	Atypical cell present but without abnormal features	Negative
Class III	Cells with abnormal features suggestive but not conclusive for malignancy	Suspicious
Class IV	Cells and cell clusters fairly conclusive for malignancy	Positive
Class V	Cells and clusters conclusive for malignancy	Positive

the results obtained by sputum cytology, although in our study the 78% accuracy is still far from the 90% accuracy achieved by Farber and his group.[8, 9]

Bronchoscopy

Bronchoscopy with cytology or biopsy, in our experience, runs a poor third to roentgenology and sputum cytology, being only 38% accurate. In this study, only those with positive cytology from smears obtained during bronchoscopy, or a definite tumor being seen on bronchoscopy, are classed as positive results. If the findings, such as fixation, stenosis or distortion of the lumen, were considered as positive findings, the positive results would be 45%. As a diagnostic tool in the early diagnosis of bronchogenic carcinoma, bronchoscopy is not very encouraging. It is still a rule in the Surgery Department, however, to bronchoscope all patients with hilar lesions to evaluate the degree of involvement of the major bronchus. Obviously, if the tumor is seen in the area of the main stem, bronchus pneumonectomy would have to be done if resection is ever attempted; and if the lesion is in the carina, it is unresectible. We have preferred to use topical anesthesia rather than general, believing firmly that topical is much safer. This has been especially impressed in our mind by a recent death of an elderly patient who had cardiac arrest after bronchoscopy under general anesthesia. We have not had any deaths due to bronchoscopy under topical anesthesia in the past three years.

It is my impression that drip technique of instilling topical anesthesia into the trachea receives better patient acceptance than the usual method of instilling directly by means of canula. After spraying the throat and anesthetizing the arytenoid area by means of moist cotton swab, the operator gently puts traction on the tongue. The patient also is asked not to swallow and not to cough, but to breathe deeply through his mouth. About 5 to 10 cc of xylocaine then is instilled gently, just posterior to the base of the tongue. The rattling sound on respiration is a sign that the anesthetic is flowing into the trachea. We do not use the technique described by Jackson of having an assistant hold the head of the patient. The patient merely lies flat on the table with his head slightly hyperextended and elevated. Two operating room technicians are more than adequate assistants for this procedure: one to hand instruments to the doctor, such as suction, right angle lens, biopsy forceps, cotton pledget for cytology; and the other nurse to receive the specimen and make the smears.

Scalene Node Biopsy

There are many uses of scalene node biopsy other than the diagnosis of lung cancer.[10] In our experience, the scalene node biopsy is most helpful in the diagnosis of sarcoidosis. By removing the lymph nodes overlying the anterior scalene muscle, one is actually getting the superior extension of the mediastinal lymphatic system. As a diagnostic tool in the diagnosis of bronchogenic carcinoma, the results with scalene node biopsy are discouraging. As our study shows, they were positive only in 16% of the cases when used. We do a biopsy in all patients with palpable supraclavicular nodes and in a few patients with lesions. We tend to use scalene node biopsy more for patients who are poor risks, in an effort to find a reason not to operate. All our scalene node biopsies are done under local anesthesia. We have had no fatalities in the past five years, with over 200 biopsies. The lymphatic drainage of the lung determines the site of biopsy. The right lung and the lower part of the left lung drains to the right supraclavicular area, and the left upper lung drains to the left scalene area. It has been proved by a number of investigators, however, that cross-communications are numerous. It should be pointed out, also, that the scalene pad of fat where the nodes are located is bounded by a triangle; medially by the internal jugular, inferiorly by the subclavian vein, and supero-laterally by the posterior belly of omohyoid muscle. On the left side, the possibility of transecting the thoracic duct should be remembered. If it is cut, it should be ligated to avoid chylothorax.

In conclusion, then, scalene node biopsy should not be done as a routine procedure in diagnosis of bronchogenic carcinoma, but only in selected patients, such as those with palpable supraclavicular nodes. Certainly, patients with lesions which appear resectible and without palpable supraclavicular nodes need not have scalene node biopsy.

Summary

The four commonly used aids in the diagnosis of bronchogenic carcinoma were studied in 113 patients with histologically-proved pulmonary malignancy. The majority of patients had three procedures done: namely, chest x-ray, sputum cytology and bronchoscopy. Scalene node biopsy was done in only about 10% of the cases. The

(Continued on page 128)

YEU-TSU LEE, M.D., ***Columbia***

Experimental Studies of Metastases

A Review—Part II

The second of three installments providing an extensive review of experimental studies of metastasized cancer cells. The first installment appeared in the January issue of MISSOURI MEDICINE, and the numbering of tables and references continues from that issue.

Doctor Lee is from the Department of Surgery, Ellis Fischel State Cancer Hospital and the University of Missouri School of Medicine.

EN-TRANSIENT STAGE OF CIRCULATING CANCER CELLS

IN 1869, ASHWORTH[48] FIRST DEMONSTRATED cancer cells in the blood of a patient with malignancy. In 1955, Engell[49] reported his clinical studies and stated that the finding of cancer cells in the venous blood from the tumor area had no prognostic value. Others[50, 51] reported that the occurrence of tumor cells in peripheral blood coincided with a decreased survival of the patients. The frequency of finding tumors in peripheral blood was approximately 8%.[52] This recovery rate could be increased to 80% if multiple or larger volume of blood samples were studied.[53] However, the difficulty of such study is the preparation and positive identification of cells that are cancerous. As commented by Christopherson,[54] "as the quality of our preparations improved, fewer and fewer cases were considered positive."

In experimental systems, the cancer cells can be positively identified by special dye or isotope before injection, and their biological activity can be checked by the development of metastases and/or bioassay on a second animal. Earlier studies were concentrated on the lymphatics and its filtering stations, the lymph nodes. Plenk *et al*[55] found that cervical nodes tumor embolism originating from neuroblastoma of the eye occurred as early as the fourth post-transplantation day. Zeidman[56] demonstrated that tumor emboli of the afferent lymphatics were arrested in the subcapsular sinuses of the node. Not until three weeks after initial arrest of the emboli did the tumor spread into the next lymph node. However, the localization of regional metastases is not so strictly predictable. When cancer cells were injected into the abdominal thoracic duct, metastases were found in the mediastinal, intercostal and supraclavicular nodes[57] (via afferent branches from thoracic duct to the nodes). Direct communication between lymph nodes and veins has been demonstrated repeatedly, even in the absence of lymphatic obstruction.[58, 59] Even though tumor cells may be destroyed in lymph nodes,[60] lymph nodes are not the effective barriers to the dissemination of tumor cells.[61]

Table 1 presents studies on the fate of circulating tumor cells. The majority of the tumor cells are cleared from the circulation rapidly. However, with bioassay[70] and isotope[68] techniques, continuous and cyclic activity of cells persisting in the circulation have been demonstrated. Tumor cell emboli have been shown to pass unarrested through the microcirculation of lung,[71] liver, kidney[72] and muscles.[73] It is postulated that cancer cells not only utilized their endowed "plasticity" to pass through the lumen of capillaries.[74] By their ameboid motility, they also were able to traverse the vascular endothelium, wander through the interstitial space, enter the lymphatics and reappear in the general circulation again and again. This new concept unifies both vascular and lymphatic systems. "It is no longer tenable to subjugate one system to the other in the phenomena of metastases."[75]

ESTABLISHMENT OF METASTASIS

A. *Tumor cell retention in organs*

According to Willis,[76] all tumor emboli of a size too great to traverse small blood vessels suffered arrest in the first arteriolar or capillary system encountered. References already have been made to the fact that tumor cell emboli can pass most organs unarrested. Greene and Harvey[28] found that there were two patterns of tumor cell dissemination. In one type, the tumor cells distributed only in organs subsequently became sites of metastases. In the other, there were wide-

TABLE 1

EXPERIMENTAL STUDIES OF THE FATE OF CIRCULATING TUMOR CELLS

Reference	*Animal type*	ROUTE	*Tumor Cells Injected*		*Site of Recovery*	*Method of Testing*	*Results*
			TYPE	NUMBER			
Madden[62] (1962)	Mice (BALB/C, Swiss)	IV	Sarcoma (MS-2, Ehrlich) Plasmacytoma	0-5 x 10^6	R-heart	Cell count	1. 10^3-10^5 cells/mouse complete clearance in 3 min 2. 5 x 10^6 cells/mouse, most gone in 1 min; all, 10 min
Agostino[63] (1961)	Rats (Wistar)	IV	Carcinosarcoma (Walker)	3 x 10^5	Aorta, vena cava	Cell count & bioassay	1. Aortic blood cell counts much lower than vena cava blood
Clifton[64] (1963)	Rabbits	IV	Carcinoma V2	5 x 10^4	(same)	(same)	2. Rapid fall of circulating cells in 30 min, then slowly; no cell at 4 hr
Griffith[65] (1963)	Rats	IV	Carcinosarcoma (Walker)	10^5-10^6	Aorta	Cell count	1. Cancer cells appeared 30-45 min after injection, persisted for 90 min
Koike[66] (1964)	Mice (Swiss)	IV	Sarcoma, Krebs, Ehrlich tumor	1-50 x 10^5	R-heart	Cell count & bioassay	1. Viable tumor cells found up to 6 hr, none when tested at 24 hr
Ramsdahl[67] (1965)	Rats (Sprague-Dawley)	*	Carcinosarcoma (Walker)	*	Vena cava	Cell count	1. 10^4-2 x 10^5 cells/ml blood during 30 sec message of thigh tumor(*) 2. 200-5,000 cells/ml blood 30 sec later 3. 93.6-99.6% clearance by 4 min
Fisher[68] (1966)	Rats (Sprague-Dawley)	IV	Carcinosarcoma (Walker) Cr-51 labelled	5 x 10^6	Vena cava	Scintillation & cell count	1. Cyclic blood radioactivity: rapid decline after peak 5-30 min; 2nd peak 2-5 hr; persisted at 48 hr
	(same)	IPV	(same)		Hepatic lymph	(same)	1. High lymph radioactivity persisted for 12 hr 2. With lymph fistula, blood did not show cyclic activity (Peak: 15 min, low level 1-24 hr)
Stevenson[69] (1966)	Mice (Swiss)	IV	Ehrlich ascites	3-4 x 10^6	Heart	Cell count	1. No tumor cell found 15 min after injection
Baker[70] (1967)	Rabbit (New Zealand)	IV	Carcinoma V2	5 x 10^6	L-heart	Bioassay	1. Animals with circulating cells: minimum 8% at at 4 hr, maximum 86% at 6 hr 2. Circulating cells present in 25% animals from day 1 to 7 3. Second peak 66-92% animals had circulating cells day 14-21

spread tumor cells without relationship to eventual location of metastases.

The total quantity of cancer containing blood received by an organ is not correlated with its metastatic frequency.[77] The glomerular capillaries, by virtue of their tortuosity and intricate network, retard the circulation more than other parts of the vascular system. And yet, the frequency of successfully trapped cancer cells is about one per 100,000 glomeruli.[78] Coman *et al*[79] found that the metastatic tumors corresponded to the number of embolic cells that lodged in the capillaries or sinusoids (not arterioles). In spleen and thyroid where metastatic lesions seldom occurred, embolic cells were arrested in arterioles before they reached the capillaries. The small vasculature of the lung, however, may be an exception. Baserga *et al*[80] found that one-third of the spontaneous pulmonary metastases of a mouse sarcoma had grown out of the arteries and their branches, though the majority had grown from capillaries. Knisely[81] also found that VX-2 squamous carcinoma can grow in pulmonary capillaries, arterioles and arteries. By the use of *in vivo* microscopy, Potter *et al*[82] have emphasized the role of microcirculatory response to specific cancer cells. Rabbit VX-2 carcinoma metastasized to the lung frequently, but rarely to other viscera; B-P carcinoma's behavior was just the opposite. When observed *in vivo*, the VX-2 tumor characteristically produced microcirculatory arrest, but the B-P tumor did not.

Both the lung and liver allow significantly lower transcapillary passage of tumor cells than the kidney and muscle.[73] Fisher and Fisher[83] found that when Walker tumor cells were injected via the jugular or portal veins, there was more rapid and complete egress from the lungs than from the liver. The growth rate of metastatic tumors in liver was found to be much faster (seven times) than that of the lung.[84] For supporting the growth of secondary tumors, the lung, by virtue of its air-filled spongy structure and continuously expanding and contracting motion, is a poor choice.[85]

Greene and Harvey[28] thought that the strength of the tumor-endothelial bond is all important, while others[85] believed that physical, mechanical and circulatory events not only influence the initiation but, also, the growth of metastases. Metastasis in the spleen is rare, both in experimental animals and clinical patients. Agostino and Clifton[86] showed that intravenously injected cancer cells did lodge in the spleen but remained there in a viable state only for about one hour. Rats that died of advanced breast adenocarcinoma had an enlarged spleen full of viable cancer cells, but no evidence of metastases.[3] Tumors implanted directly in rabbit's spleen grew faster than tumors implanted in other organs.[87] Some thought that spleen, as a large reticuloendothelial organ, might have a strong defense mechanism preventing the establishment of metastases. Yet, at the present, the view of Wallace[36] appears appropriate: "while an immunological explanation of the failure of some metastases to appear is an appealing one, it explains one phenomenon by assuming the presence of another which has not yet been proven to exist."

B. Reaction of tumor cells and endothelium

Early histological observation on post-mortem tissues showed that carcinoma cells were enclosed, as a rule, in the thrombi and were rarely free in the blood stream. The cancer cells were treated as a foreign body. Endothelium, fibroblast and connective tissue, all were involved in the process of "organization" to destroy the cancer emboli.[88]

By the use of cinephotomicrographic technique, Wood *et al*[1] showed that "the most decisive stage of haematogenous metastases is the initial ability of embolic malignant cells to adhere securely to the endothelium." This process involved two phases: special features of the carcinoma emboli and endothelial factors. The characteristics of metastasizing cancer cells have been discussed in Section I. This part will analyse the endothelial stickiness and the coagulation factors.

The *in vivo* analysis of early initiation of metastases revealed the picture of tumor cell endothelial adherence, intravascular coagulum and focal leucocytic infiltration.[1] The adherent cancer cells generally were surrounded or entrapped by fibrin. As early as 2½ hours after adherence, cancer cells were observed to pass through minute endothelial defects created by diapedesis of white cells. After tumor cells had penetrated the endothelium, growth within the perivascular connective tissues was progressive.

Further observations[89] showed that fibrin enmeshed tumor thrombi are softer and more delicate than those of the hemostatic injured thrombi (composed predominantly of platelets), and both are devoid of erythrocytes. Fifteen to 20 minutes after the formation of tumor thrombi, a friable and delicate red cell thrombus occurred. Fibrinolysin was able to lyse the red cell and tumor thrombi, but not the injured thrombi.

V2 carcinoma of rabbits has thromboplastic activity.[90] A "cancer coagulative factor" has been shown to be responsible for the fibrin that is laid down ahead of the growth of cancer.[91] Clifton

TABLE 2

Experimental Studies of Adminstration of Heparin and the Development of Metastases

		Tumor Tested		*Heparin Given*			
Reference	*Animal Type*	ROUTE	TYPE	DOSE, ROUTE	DURATION (DAYS)	*Method of Testing*	*Results*
Fisher[94] (1961)	Rats (Sprague-Dawley)	IPV	Carcinoma (Walker)	70 mg/12 hr/rat (S.C.)	2, 4, 7	Lung metastases	1. Decreased metastases only in group heparinized for 4 & 7 days.
Clifton[95] (1962)	Rats	IV	Carcinosarcoma (Walker)	5 mg/rat (IV)	#	Lung metastases	1. Heparinization decreased metastases. 2. Heparinization decreased the number of tumor cell released during message of cecal tumor.*
	(Same)	*	(Same)	(Same)	#	Liver metastases	
Retik[96] (1962)	Mice (CBLJN)	IV	Sarcoma (T241)	2 mg/mouse d & 1 mg/mouse & 0.5 mg/mouse (IV)	3 4-14 14-18	Lung metastases	1. Metastases of T241 increased by heparin. 2. Metastases of DBA sarcoma dropped slightly.
	Mice (DBA)	IV	Sarcoma (DBA)				
Stevens[97] (1963)	Chick embryo	—	Ehrlich cells	0.5 mg/0.1 ml inoculum	3	Tumor implant	1. Heparin decreased tumor size, and degree of endothelium invasion.
Koike[66] (1964)	Mice (Swiss)	IV	Sarcoma, Krebs, Ehrlich tumor	10 mg/mouse (IV)	#	Lung metastases	1. Metastases decreased in all tumors.
Fisher[98] (1967)	Rats (Sprague-Dawley) Rabbit (New Zealand)	IV IPV IV	Carcinoma Cr-51 labelled Carcinoma V2, Cr-51 labelled	70 mg/mouse (IV) q 12 hr 70 mg/rabbit (IV) q 9 hr	7 1	Scintillation count of blood, liver, lung, kidney, spleen	1. Adequate and continuous heparinization had no effect on lodgement of tumor cells in organs.
Stott[99] (1967)	Mice (Swiss)	IV	Ehrlich cells	10 mg/kg/d	5	Lung metastases	1. Decreased metastases only in group started heparin 5 days before tumor inoculation.

Note: # *one dose* prior to tumor inoculation.
IV intravenously.
IPV intravenously via portal vein.
S.C. subcutaneously.

and Grossi[92] have tested more than 200 human tumors for fibrinolytic activity and the presence of an activator of human plasminogen. Although normal breast tissue contains spontaneous fibrinolytic enzymes, most of the carcinoma of breast and adenocarcinoma, in general, contain only an activator of plasminogen. Cancers of squamous epithelial origin had no significant lytic or activator properties, while sarcomas have a high degree of inherent fibrinolytic activity. The application of such findings to clinical management of patients with cancer is simple in theory, but difficult in practice. Nevertheless, many experimental studies have been carried out to modify the coagulation and fibrin formation process, the receptivity of the endothelium and the host reaction to trauma:

1. Heparin

The action of exogenous heparin on the clotting system is solely by the inhibition of the reactions leading to clotting.[93] It acts as an antithrombin; it inhibits thromboplastin generation and the conversion of prothrombin to thrombin. It also is active in preventing platelet stickiness and agglutination. Most of the experimental studies (Table 2) have shown that heparin, when given prior to inoculation of tumor cells and maintained for a sufficient time, is able to decrease the incidence of metastases.

The possibility that heparin may have a direct cytotoxic effect on malignant cells is still unsettled. By adding heparin to tissue culture medium and/or to ascitic fluid, a reduction of tumor mitotic index with increased abnormal mitosis was noted in sarcoma[100] and Ehrlich ascites cells.[101] However, such effect was denied by other workers using fibroblast cell culture.[102] *In vitro* pretreatment of tumor cells with heparin has no significant effect on its subsequently ability to grow or produce metastases *in vivo*.[1, 66, 94]

The circulating cancer cells also reacted differently in different animals. Agostino *et al*[63] found that heparinization of rats resulted in a significantly lowered tumor cell count, while Koike[66] found that circulating tumor cells increased in number and persisted in circulation longer in the mice. By using Cr-51 tagged tumor cells, Fisher and Fisher[98] found that the circulating tumor cells and their organ retention were no different whether the animals (rabbits and rats) were heparinized or not. Since clusters of cancer cells were trapped in capillaries more easily than that of single cells,[82] it was thought that heparin might act by decreasing tumor cell thrombosis. But, pretreatment of cancer cells with heparin did not alter their rate of disappearance.[62]

Besides the vagaries inherent in the use of different investigative designs and tumor-host systems, these conflicting results in studies with heparin also can be explained by its various biological properties. Wood[1] believed strongly that heparin functions by its anticoagulant properties (by reduction of endothelial attachment of cancer cells). Retik[96] thought that the antimitotic activity may be identical with the lipemia-clearing activity. Repeated injection of heparin may exhaust the limiting co-factors of the lipemia-clearing activities. Since Fisher and Fisher found that heparin has no effect on the organ retention of circulating tumor cells[98] nor their increased localization in traumatized tissues,[103] they believed that the relationship of anticoagulants to inhibition of tumor cell lodgement and microclot formation is not to be unequivocally accepted.[104]

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Bronchogenic Carcinoma (Cont'd)

percentage of positive results, together with the evaluation and discussion of each procedure, were presented briefly. It also was pointed out that the more liberal use of diagnostic thoracotomy is one of the important advances in the management of pulmonary malignancy in the past 15 years.

Acknowledgement: The author wishes to express appreciation to Dr. Lewis Yates for his assistance in the preparation of this paper.

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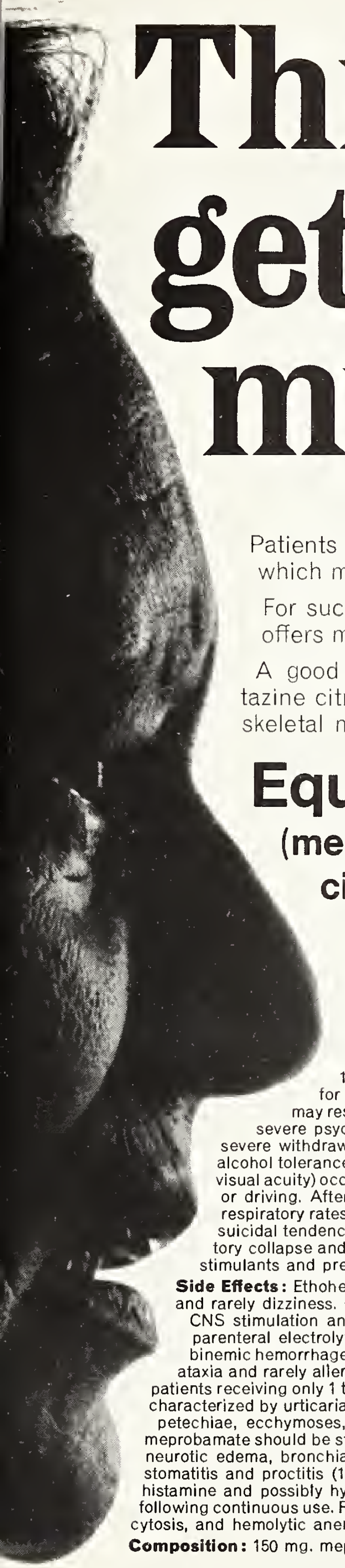

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Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with immediate gastric lavage and appropriate supportive therapy (CNS stimulants and pressor amines as indicated).

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness. Overdosage may result in CNS depression (drowsiness and lightheadedness) or CNS stimulation and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]). Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically such as with epinephrine, antihistamine and possibly hydrocortisone. A few cases of leucopenia, usually transient, have been reported following continuous use. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

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Officers of MSMA Component Societies

Numerous county medical societies have elected new officers for 1968. For the convenience of all MSMA members, Missouri Medicine presents a revision of the list of societies and officers which appeared in the annual DIRECTORY issue published on July 15, 1967. All county societies are urged to report the names of newly-elected officers for publication in the next issue of Missouri Medicine.

County	District	President	Address	Secretary	Address
Andrew	1	Gilbert B. Kelley	Savannah	Warren C. Baker	Savannah
Audrain	5	Lawrence K. Epple	Mexico	Thomas P. Dwyer	Mexico
Barton-Dade	8	Lee A. McNeel	Greenfield	Harold Bauer	Lockwood
Benton	6			James A. Logan	Warsaw
Boone	5	David G. Hall	Columbia	Henry M. Hardwicke	Ashland
Buchanan	1	Berwyn H. Moen	St. Joseph	Owen W. D. Craig	St. Joseph
Butler-Wayne-Ripley	10	Arthur T. Tuma	Poplar Bluff	Barry B. White	Poplar Bluff
Callaway	5	J. K. Ritterbusch	Fulton	Jay F. Tuttle	Fulton
Cape Girardeau	10	Harold B. Rapp	Cape Girardeau	James W. Terry, Jr.	Cape Girardeau
Carter-Shannon	9			Harry D. Rollins	Winona
Chariton-Macon-Monroe-Randolph	2	Donald E. Eggleston	Macon	Clarence C. Cohrs	Moberly
Clay	1	G. Comer Bates	Kansas City	Lawrence L. Hayes	Kansas City
Clinton	1	Wilbur B. Spalding	Plattsburg	John P. Mabrey	Plattsburg
Cole	5	Matthew J. Doyle	Jefferson City	Fred P. Handler	Jefferson City
Cooper	5	Byron M. Stuart	Boonville	W. B. Avery	Boonville
Dallas-Hickory-Polk	8	George G. Robinson	Humansville	Evelyn Griffin	Buffalo
Dunklin	10	John K. Legan	Kennett	Quinton Tarver	Kennett
Franklin-Gasconade-Warren	4	Robert W. Moellenhoff	Washington	Donald L. Baker	Union
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	Wm. Leonard Fair	Chillicothe	Windsor B. Atcheson	Trenton
Greene	8	Dallas D. Anthony	Springfield	James S. Key	Springfield
Henry	6	Shelby B. Hughes	Clinton	R. S. Hollingsworth	Clinton
Howard	5	Wm. G. Marshall	Glasgow	Wm. J. Shaw, Jr.	Fayette
Jackson	7	Robert W. Forsythe	Kansas City	S. Ross Melgaard	Kansas City
Jasper	8	Grover S. Patterson	Carthage	Herbert J. Schmidt	Joplin
Jefferson	4	Francis L. Kozal	Crystal City	James L. Mayfield	Crystal City
Johnson	6	Hugh A. Hanna	Warrensburg	Edward G. Cada	Warrensburg
Lafayette-Ray	6	Franklin A. Crozier	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2	Earl E. Gilfillan	Memphis	Landis Y. Davis	Canton
Lincoln-St. Charles	4	Louis P. Hetlage	Troy	Vincent P. Perna	St. Louis
Marion-Ralls-Shelby	2	Albert J. Grant	Hannibal	James K. Mann	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)	9	B. J. Bass	Salem	Barbara E. Russell	Rolla
Miller	5	E. O. Shelton	Eldon	Carl T. Buehler, Jr.	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds)	10	Kirby L. Turner	Potosi	William Ford	Farmington
Moniteau	5	Kenyon S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	Samuel J. Byland	Wellsville
Morgan	5	Ruth Kauffman	Versailles	J. Loren Washburn	Versailles
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	E. M. Grim	Kirksville	Robert W. Buben	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	Troy O. Morgan, Jr.	Albany	Frank B. Matteson	Grant City
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	George C. Olive	Neosho	Charles A. Spears	Branson
Pemiscot	10	Oliver W. Cook	Caruthersville	Clarence W. McKaskle	Caruthersville
Perry-Ste. Genevieve	10	J. F. Lutkewitte	Ste. Genevieve	Stanley G. Legner	Perryville
Pettis	6	Donald Eldenburg	Sedalia	Elmer H. VanDyke	Sedalia
Pike	2	Edward K. Jackson	Clarksville	Lawrence G. Stuerman	Louisiana
Platte	1	Ireland W. Kimball	Kansas City	S. Lloyd Allen	Kansas City
St. Louis City	3	Robert W. Kelley	St. Louis	Joseph B. Vacca	St. Louis
St. Louis County	4	Melvin M. Schwartz	St. Louis	Miles C. Whitener	St. Louis
Saline	6	Robert C. Haynes	Marshall	Bedford F. Knipschild	Marshall
Semo County Medical Society (Stoddard-New Madrid-Scott-Mississippi)	10	Charles C. Reeder	New Madrid	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	William F. Dreyer	Houston	Rollin H. Smith	West Plains
Webster	8	T. M. Macdonnell	Marshfield	Robert J. Bareis	Marshfield
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Rolla B. Wray	Nevada	Roy W. Pearse, Jr.	Nevada

President's Message

What happened to medicine in Missouri in 1967 and what may be around the corner in 1968?

As expected, in this period of increasing governmental activity in the health care field, most of the major changes in the provision of health services in Missouri were related to various forms of legislative activity.

First, both the profession and the people had the opportunity to live for a full year with Medicare. Even though a great many people received quality health care they could not have afforded personally, this experience still shows the government's financial irresponsibility in providing medical care for *all* people over 65, regardless of need. This never will make sense to the clear-thinking taxpayer.

Second, the ODMC to the military finally agreed to reimburse physicians and hospitals at a reasonable rate for services rather than by a fixed, ridiculously-low formula that never represented results of true negotiation.

Third, the Missouri Legislature and Governor found it within their political consciences to implement the first phase of Title XIX (Medicaid) so akin to the Kerr-Mills legislation originally sponsored by both the AMA and the MSMA. The MSMA and many individual members have cooperated with the Division of Welfare in its administration of Title XIX. After only two months' experience, it appears that the rough edges can be smoothed quickly and satisfactorily. But, again, there is evidence of the need to educate physicians, the public and government in regard to their proper roles in these changing methods of providing health services. Like it or not, they are here and it is to everyone's best interests to understand them and demand proper regulations regarding them.

Hector W. Benoit, Jr., M.D.

Fourth, after an unwarranted hiatus, Missouri can now point with pride to a Board of Health. It faces many challenges and problems which soon will be met.

After a year of operation of the federally-funded Regional Medical Program, there have been no outstanding effects on health care. But, we anticipate the Program in Missouri will reflect its impact on the ability of physicians and other providers of health services to render to patients in all corners of the state the highest possible quality medical care, at the local level, for the three prime disease entities of heart disease, cancer and stroke.

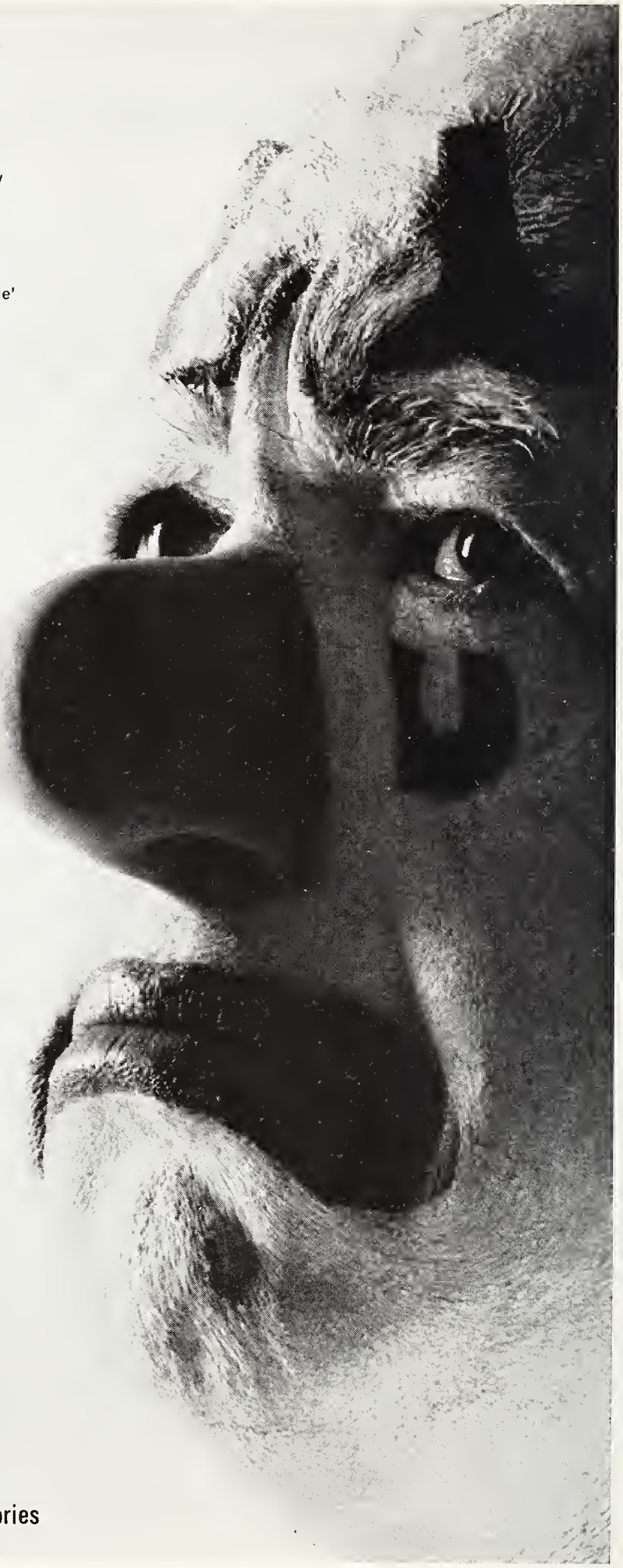
Such are the relatively few outstanding highlights of changes in medicine in Missouri in 1967. What about 1968?

Perhaps the officers of MSMA and other elements of organized medicine have overlooked too long the implications of comprehensive health planning legislation. Until now, there has been little provision for advice and council from organized medicine. This situation must be corrected and it is incumbent upon organized medicine to insert itself vigorously into the area of future health planning. Failing this, the not-so-idle fears that someday social workers and other "do-gooders" will be controlling and manipulating health care to our people will come to pass. We will find ourselves and our hospitals reduced to mere tools for those in positions of power—power not derived from knowledge or understanding of the problems. Every physician must become more acutely aware of his role in the rapidly increasing local, state and national health-planning activities.

1968 offers an opportunity for each physician in Missouri to become a little more tolerant and a lot more understanding of the role government has thrust upon us in providing health care for our patients. I fear, both individual physicians and organized medicine have been reactionary in the past in failing to recognize and respond to the need for change in society's health care needs since World War II. As a result of this reactionary attitude or so-called "indifference," there have been introduced legislative tools which do not fulfill these needs and are not in the best interest of good health care.

We now must recognize our failings and become more knowledgeable, more active, more persuasive and more influential in the development of amendments to current legislation and alternative methods of providing quality health care.

We well may be glad that this is leap year. We will need that extra day to accomplish all the work that lies before us.



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Contraindications: Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction.
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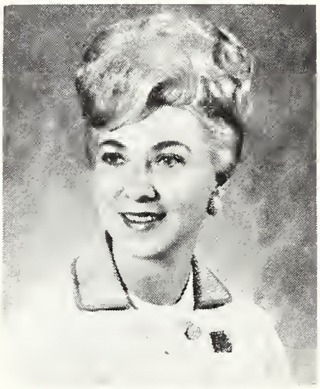
Woman's Auxiliary

I am sure that at least once during every county, state and national auxiliary president's year, she feels a compulsion to write in answer to questions she has heard many times—"What does the auxiliary do and is the auxiliary really worth while?"

I do not want to be left out of this great majority, so I will join the ranks of such writers. I know that in some counties where the medical societies do not work closely with their auxiliaries or where there are no organized auxiliaries, it is difficult for the doctor-husbands to see the efforts and worth of an auxiliary. However, for those of us who have worked and know Missouri's contribution to the tremendous national total of service, it is difficult to answer these questions briefly.

Auxiliaries sponsor health career days in high schools and provide all types of service to inform our young people about the many health careers. In Missouri alone, they give many thousands of dollars in scholarships and scholarship loans each year. The auxiliaries are aiding in the recruitment and recall of trained personnel who have left the health field. This year, they contributed $384,649.48 (a total to date of $2,878,431.48) to the American Medical Association Education and Research Foundation which supports the loan guarantee fund that provides loans for students, interns and residents, to the unrestricted funds for medical schools and to the Institute for Biomedical Research in Chicago.



Mrs. John M. Williams

These funds are raised in a myriad of ingenious ways by hard-working auxiliary wives all over our country. Tremendous quantities of drugs, materials and medical equipment are collected and sent to central agencies which supply critical areas in our country or any foreign country where qualified groups or organizations request such help. Many auxiliaries have answered the lone call of a serviceman or doctor for help in an area where the need is great. Mental health organizations and institutions are served where possible and needed mental health legislation is supported. Our rural areas are made aware of safety and disaster preparedness programs, immunization drives and other health problems as auxiliaries work with 4-H Clubs, Extension Groups, etc. Auxiliary wives work effectively to inform the public about legislation and to interest them in all elections. We also inform our legislators of our opinions on pending legislation.

Community service is so vast and varied that mentioning the seven package programs that auxiliaries introduce into their communities is only a start—Venereal Disease in Teenagers, Immunization, Developing Youth Health Habits, Mental Health, Health Careers, Block Mother and Homemaker Service. To the doctor who would say that his wife is already involved in so many community affairs that she does not need to be involved in auxiliary work to do her share, I repeat—true, but how much better for us all if she does her work through her auxiliary, an organization of doctors' wives that needs to be recognized for its cooperation with and service to the community.

It has been established that the volunteer organization's functions are being taken over by government at great cost to the taxpayer and with far less efficiency and results while, at the same time, the greatest factor of all is being ruled out—*the volunteer helping another human being*. The more functions the government takes over, the more dependent our citizens become upon our government for every service and the more socialized we become. It is time to wake up to the dangers of socialization that surround us and do what we can to organize, support and work with our own professional groups for the freedoms in which we believe.

When someone asks *you* what the auxiliary does, *remember* that we are organized and dedicated, ready at any time to set into motion any program proposed to us by the Medical Association. This in itself is value. We break down only as a result of lack of membership and interest, and these breakdowns could be eliminated entirely if each and every physician could be convinced of auxiliary importance and would urge his wife to belong and participate!

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(when diuretics or sedatives are inadequate, for example)

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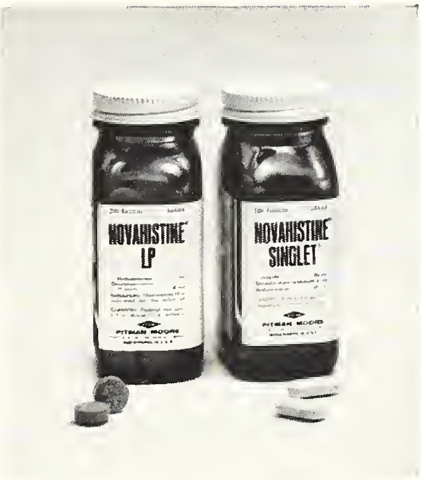

EDITORIALS

"THE OLD ORDER CHANGETH, YIELDING PLACE TO NEW"

No longer can the American physician sit aloof and withdrawn from the tangle of politics and public opinion. No longer is our professional independence an automatic "right" that we assume with the title, "Doctor of Medicine."

The present involvement of the Federal Government in medical practice is producing widespread changes in our lives and in our practices. Medicare is here; Medicaid is being implemented. Regional programs for Heart Disease, Cancer and Stroke are well into the planning stages. In the future are the unknown quantities called Kiddiecare and Preventicare. The 89th Congress enacted or considered such diverse bills affecting medicine as the Allied Health Training Act, the Comprehensive Public Health Amendments for State and area planning and demonstrations, the Economic Opportunity Act Amendments which establish neighborhood comprehensive health centers, the Community Mental Health Centers Act, the Vocational Rehabilitation Amendments and many others. It is difficult to single out a field of medicine in which the Federal Government is not active or involved in active planning.

Obviously, the "old order changeth." Ten years ago, Medicare was only a word of vague concern to practicing physicians who feared Government intervention in their business. As Medicare approached reality, these fears changed to outspoken condemnation and hostility. When the law was passed, organized medicine was wholly unprepared to deal with its complexities. Fortunately, Dr. James Appel and a few top-level leaders in the American Medical Association were able to organize resistance to the more onerous parts of the bill. As a result of the efforts of these few national leaders, Medicare became a workable law and also demonstrated that Government and organized medicine could work together.

When the Heart, Cancer and Stroke Legislation was proposed, more physicians realized the importance and effectiveness of active participation by individuals in government deliberations. As a result of the vigorous activity of many (mainly teachers, and among them Ken Crispell of Charlottesville), the DeBakey Law was changed from one which would have allowed Federal intervention in the *care* of these and related diseases in community hospitals as well as medical centers, to one which would emphasize postgraduate education and affect patient care secondarily, by producing better educated physicians.

When Medicaid became law, it was even more evident that grassroot individual effort was essential in assuring good state implementation. No longer could the practicing physician rely on top AMA officials or small numbers of interested academic physicians to guide Federal legislation into acceptable channels. This law provides only certain guidelines to the states; it is left to the state to specify details of benefits, eligibility, reimbursement, etc. Obviously, it is essential for local and state leaders to guide the writing of the laws. In California, the state and county medical societies worked closely with the state legislature, and a model Medicaid law resulted. In New York, on the other hand, the state legislature, motivated by political expediency, created a law which is the present concern of all New Yorkers as well as the Federal Government. Here the State Medical Society did not become actively involved until the law was enacted; by then, the horse was stolen. In Virginia, we have a unique opportunity to participate in the enactment of Title XIX legislation. The last Legislature empowered the State Health Department to draw up plans for Virginia's involvement in this massive Federal program for financing medical care (by any yardstick much bigger than Medicare). The State Health Department, with the advice of a blue ribbon Governor's Advisory Committee, has this legislation well under way. Soon it will be presented to the various budget analysts and then to the full Legislature in 1968. Virginia must pass a Medicaid Law in 1968, because if a plan is not in operation by January 1, 1970, all Federal matching funds for present welfare programs will be discontinued.

Therefore, we must become knowledgeable about this proposed legislation and pass our advice on to our local representatives. We can no longer "pass the buck" to our national and academic and state leaders as we have in the past. Each legislator has a physician whose judgment he relies on in health matters. Can we not take the time to inform him of the facts about the needs existent in our state? Administration, scope of benefits, eligibility requirements, methods of providing reimbursement must become important to us. They will certainly affect us for the rest of our professional lives. We can have physician-legislator laws we can live with or legislator laws we discover too late are not in the best interests of our patients. Similarly, we must make individual efforts to strengthen our ties with the medical schools which are planning for Heart, Cancer and Stroke legislation. They can help us more when they know where we need help.

Indeed the "old order changeth." These programs are law and we can no longer hope that a storm of violent opposition will wash them away. Likewise, passive negativity will produce nothing more than ignorance of what is happening to each of us. We must involve ourselves in these plans and in the current negotiations necessary to make them workable laws, regardless of our personal philosophy. If we believe that we know what is best for our patients, it is up to us to say so. Loud and Clear! Thoughtfully and Calmly! To our patients, our representatives and to all the citizens of the Commonwealth!

"It is wiser to take part in the affairs of government than to live under the government of unwise men."—Plato

Thomas L. Gorsuch, M.D.
The Virginia Medical Monthly

AMA CONTINUES SEARCH FOR HEALTH CARE SOLUTIONS

The AMA News, a publication of the American Medical Association, said in an editorial that the AMA will "continue to seek solutions to the problems of health care for the poor" despite "harassment, even from those it is trying to help."

Commenting on the recent AMA-sponsored National Conference on Health Care for the Poor, *The AMA News* said that the conference drew experts with a wide variety of viewpoints "to discuss and search for answers to a national problem" and "the results were educational to the AMA and to those invited to participate in the conference."

"However," the editorial said, "an apparently coordinated, well planned attack on the AMA and the conference succeeded in diverting the attention of many, including the news media, from the discussions of health care for the poor. How that was done also proved educational.

"News releases issued before the conference began got headlines by rehashing old arguments against organized medicine. During the conference's final day, a placard-carrying group of about 100 people representing a Chicago organization marched into the session demanding to be heard. When their representatives were given the floor, they mistakenly criticized the conference for including 'no voice from the poor' and for attempting 'to silence the anguished cries of the poor.'

"Even before the conference concluded, still another group issued a last statement criticizing the conference as being unproductive.

"The kind of harassment to which the AMA and its conference were subjected consists of motion, of noise and of rigid expressions of opinion. The American Medical Association, of course, is not the only one to be subjected to the kind of grasping for attention at almost any price which seems to be a part of today's social attitude. Dissent and disagreement for many have come to mean a flaunting of manners and of reason."

DON'T BOTHER ME! ASK YOUR TEACHER!

Everybody loves the other fellow's mistakes. They are always good for a laugh, especially when the neighbor's 8th grader pulls off some like these:

Schultz's store specializes in courteous, prompt and efficient self-service.

or—

Q. What is the function of the stomach?

A. To hold up the petticoat.

We always get a big guffaw out of typographical errors, but the misplaced idea gets an even bigger laugh. Howabout these two (each was run in a local newspaper more than one time) . . .

"For sale—a cow that gives two gallons of milk, also a farm wagon and a grindstone."

"For sale—a new bicycle by an old lady with a leather seat."

However, we must hasten to observe that not all the mistakes are funny. The high school teacher who said, "Square root of 16? What is square root? Remember, I'm an English teacher," didn't say anything funny. Perhaps the most unfunny series of mistakes were made when 15 English teachers were asked to complete ten incomplete proverbs. Fourteen out of the 15 quoted Shakespeare as saying "all that **glitters** is not gold." Here are a few taken at random from the 150 answers (in each case only one or two words were omitted from the proverb—the teachers were to fill in the missing words) . . .

"Too many **chefs** spoil the **soup.**"

"People who live in glass **homes** should not throw **parties.**"

"A bird in the **pocket** is worth two in the **woods.**"

"Heaven will not be Heaven unless my **dog** is there."

These are not funny. They hurt. They hurt because college graduates (now teachers) know so little about the importance of accuracy, but these same people will mark a big red X on an examination paper having a misspelled word—where there is the failure to use a question mark or where there is an infinitive that gets split unintentionally.

Perhaps we should go back to that famous philosopher who wasn't overburdened with too much education for the answer:

Wasn't it Will Rogers who said,

"We're all igerant, but not about the same things"?

St. Louis County Medical Society Bulletin

Tissue's healing nicely. Yet anxiety slows his steps toward recovery.

By helping overcome anxiety and tension which can thwart the convalescent's progress, Equanil® often may play an important role in medical and surgical aftercare.

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Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their annual Christmas party in Chillicothe on December 14, 1967. This was a gala affair with Dr. Hector Benoit, president of MSMA and Mrs. Benoit of Kansas City and Mr. Ray McIntyre, executive secretary of MSMA and Mrs. McIntyre of Jefferson City as guests. The short discussions by both Doctor Benoit and Mr. McIntyre were timely and challenging.

One of the highlights of the evening was Doctor Benoit's presentation of a brass and walnut plaque to Dr. Donald Dowell of Chillicothe. The plaque was from the Grand River Medical Society in recognition of the many years Doctor Dowell has devoted to being an outstanding physician and leader in Missouri and national medical circles.

The Brookfield Community Choir, under the direction of Mrs. Ralph Bohnsack, sang several Christmas selections.

The next program will be held on January 11 at the Strand Hotel in Chillicothe with the social hour at 6:30 PM, dinner at 7:30 PM and then the scientific session. James W. Willoughby, M.D., allergist in private practice in Kansas City, will present a paper entitled "Clinical Management of Common Allergic Diseases."

Albert D. Cross, M.D., *Secretary*

SECOND DISTRICT

COUNCILOR
LYSLE M. BACH, M.D., HANNIBAL

Chariton-Macon-Monroe-Randolph County Medical Society

The Chariton-Macon-Monroe-Randolph County Medical Society held its monthly dinner meeting on December 14, 1967 in Moberly. At this meeting, it was voted to establish a scholarship for the LPN course to begin in January, 1968 at the Moberly Junior College.

Dr. C. S. Anast, professor of pediatrics at the University of Missouri School of Medicine, was the guest speaker. He discussed two subjects; one was the newly-discovered calcium regulating hormone, thyrocalcitonin, and the other was thyroid deficiency states in pediatrics.

Members present were Drs. D. E. Eggleston, Macon County; F. L. Harms, Chariton County; Josephine Baker, A. P. Rowlette, J. W. Fleming, T. S. Fleming, R. H. Young, W. D. Chute, L. E. Huber and Robert Hasson, Randolph County; and F. A. Barnett, Monroe County. Guests were Dr. Leopold LaChance of Centralia and Major Robert Thompson of March Air Force Base, Riverside, California.

Robert Hasson, M.D., *Secretary*

FOURTH DISTRICT

COUNCILOR
ROBERT A. MAYER, M.D.,
ST. LOUIS COUNTY

St. Louis County Medical Society

Melvin M. Schwartz, M.D., has been elected President of the St. Louis County Medical Society for 1968. He was installed with other officers for the coming year at the Society's installation banquet on January 10 in Clayton.

Doctor Schwartz, who specializes in obstetrics and gynecology, has been in private practice since 1963 and is on the medical staffs of Jewish Hospital, Barnes Hospital, St. Louis Maternity Hospital and St. John's Mercy Hospital.

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The December meeting of the West Central Missouri Medical Society was held on December 14 in Nevada. The social hour was followed by dinner and the scientific meeting.

In keeping with the custom of the Society, this meeting was a little different from the usual medical society meeting. Speaker for the occasion was Dr. Henry M. Gregory, Jr., professor of religion and chaplain at Cottey College, Nevada. Doctor Gregory spoke on the topic, "The Healing Partnership." All present enjoyed his presentation.

Following the program, a brief business meeting was held. After a brief discussion, the Society voted not to omit any meetings in 1968 because of the Missouri State Medical Association annual meeting. It was announced that the next meeting of the Society will be held in Butler on January 11, 1968. There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

(*Continued on page 146*)

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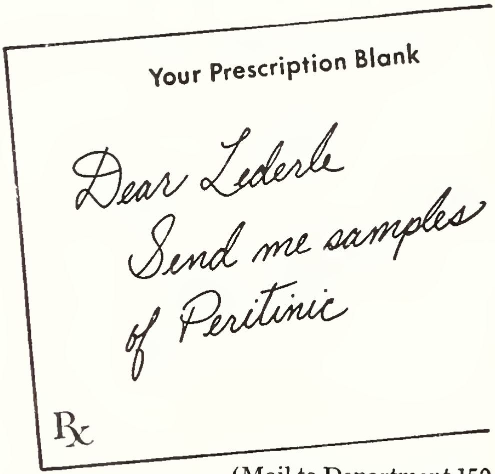

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Dear Lederle
Send me samples
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anticostive, *adj.* (*anti* opposed to + *costive* causing constipation.) Against constipation. (Now isn't that a good idea in an iron-containing hematinic?)

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County Society News (Cont'd)

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society met in Lexington on November 14, 1967 with 18 members and three guests present. President William LaHue presided at the business meeting which followed the dinner. Minutes of the previous meeting were read and approved. Correspondence was read and acted upon accordingly.

Following the business meeting, the program was turned over to Dr. Warren Sights of the University of Missouri, who represents the Missouri Regional Medical Program. Doctor Sights presented a very fine review of the regional program as it is being planned and, thus far, has been partially carried out in Missouri.

It was interesting to note that the State of Missouri is a leader in this planning program at the present time and its plans are being used as a guide by many other states. Doctor Sights indicated that the purpose of the program is to care for patients in local facilities as much as possible, rather than send all patients of a specific problem to a center for care elsewhere in the state. The program will attempt to give aid in caring for these conditions in the local community by offering certain services and advanced, recent information from the research centers. It is hoped that a consulting team will be available to visit communities when and where needed.

At the present time, there is a plan for more rapid diagnoses and more complete diagnostic work through the computer method. The idea, of course, is now in the planning stage and will require a considerable amount of time and money to set into operation. The program, as outlined by Doctor Sights, was considerably different from that which had been described originally by the DeBakey group in their report on the regional medical program. Doctor Sights' report was very enlightening, and those in attendance felt that it is much more practical in approach than the original recommendation by Doctor DeBakey.

The program was turned over to Mr. Don Brummall, executive assistant from the MSMA office in Jefferson City. Mr. Brummall talked primarily about the recent Officers' Conference in Columbia which dealt with Communications and Medicaid and the relationship of medicine and politics on the state level. He pointed out that the legislators who spoke at the meeting emphasized the need for physicians to take an active interest in legislation that will affect medicine.

Following Mr. Brummall's talk, a discussion was held and the meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

MEDICARE INFORMATION FOR PHYSICIANS

Key provisions of the 1967 Medicare-Social Security bill as approved by Congress were published in the December 25, 1967 issue of *The AMA News*.

Physicians in need of this information may wish to refer to these pages and file them for future reference.

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Continuing Education Coming Events

Feb. 6	**AMA Lecture in Clinical Nutrition** Northeast Missouri State Teachers College Kirksville
Feb. 6-9	**A Comprehensive View of Pulmonary Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit—36 hours)
Feb. 7	**Office Pediatrics** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Feb. 23	**The American College of Physicians (Kansas Regional)** Ramada Inn, Topeka, Kansas Continuing Education, M.U. School of Medicine
March 5-8	**Oncology: A Curriculum in Cancer** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
March 6-7	**Coronary Heart Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia
March 14	**AMA Lecture in Clinical Nutrition** Lincoln University, Jefferson City
March 22-23	**20th Annual Midwest Cancer Conference** Broadway Hotel, Wichita, Kansas (Category II Credit)
March 23-24	**Missouri Society of Anesthesiologists, Inc.** Annual Meeting, Kansas City
March 27-28	**Disorders in Clinical Immunology** Continuing Education, M.U. School of Medicine Medical Center, Columbia
April 16	**14th Seminar in Urology** Continuing Education, M.U. School of Medicine Medical Center, Columbia
April 17-18	**14th Seminar in Urology** Continuing Education, M.U. School of Medicine Kansas City
April 18-20	**American Association for the History of Medicine** Washington University School of Medicine Chase-Park Plaza Hotel, St. Louis
April 22-26	**Workshop in Pediatric Radiology** Continuing Education, M.U. School of Medicine Kansas City

New Members

J. William Cheek, M.D., 419 Professional Bldg., Springfield, has become a member of Greene County Medical Society. Dr. Cheek is a native of Oklahoma City, Okla., received his preliminary education at the University of Oklahoma and his M.D. degree at the University of Tennessee in 1961. He specializes in internal medicine and cardiology.

James K. Cordonnier, M.D., 1550 East Sunshine, Springfield, has become a member of Greene County Medical Society. Dr. Cordonnier is a native of Carthage, received his preliminary education at the University of Arkansas and the University of Missouri and his M.D. degree at Washington University in 1959. He specializes in general surgery.

Judith H. Donegan, M.D., Boone County Hospital, Columbia, has become a member of Boone County Medical Society. Dr. Donegan is a native of Peoria, Illinois, received her preliminary education at the University of Illinois and her M.D. degree at Washington University in 1964. She specializes in anesthesiology.

Donald R. Griffin, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Griffin is a native of Thompson, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1965. He specializes in anesthesiology.

Harold L. Jones, M.D., 1550 East Sunshine, Springfield, has become a member of Greene County Medical Society. Dr. Jones is a native of Buffalo, received his preliminary education at Southwest Missouri State College and his M.D. degree at the University of Missouri in 1960. He specializes in internal medicine.

L. R. Landhuis, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Landhuis is a native of Marshalltown, Iowa, received his preliminary education at Northwestern College and McPherson College and his M.D. degree at the State University of Iowa in 1959. He specializes in ophthalmology.

Roberta L. Lowry, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Lowry is a native of Mercer, received her preliminary education at the University of Missouri and her M.D. degree at the University of Missouri in 1963. She specializes in anesthesiology.

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Telephone: (Area Code 816) 561-1498

C. E. Gene Ridenhour, M.D., 1408 Peral, Columbia, has become a member of Boone County Medical Society. Dr. Ridenhour is a native of Belle, received his preliminary education at Central Missouri State College and the University of Missouri and his M.D. degree at the University of Missouri in 1963. He specializes in general surgery.

Richard A. Rink, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Rink is a native of Beardstown, Illinois, received his preliminary education at the Northwestern University and his M.D. degree at Northwestern University in 1962. He specializes in anesthesiology.

Robert C. Stockwood, M.D., 1718 S. Ingram, Sedalia, has become a member of Pettis County Medical Society. Dr. Stockwood is a native of Kansas City, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1960. He specializes in obstetrics and gynecology.

James F. Terry, M.D., 609 Cherry St., Springfield, has become a member of Greene County Medical Society. Dr. Terry is a native of Cookeville, Tenn., received his preliminary education at Tennessee Technological University and his M.D. degree at the University of Tennessee in 1958. He specializes in urology.

Robert M. Thomas, M.D., 113 West Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Thomas is a native of Brazil, Indiana, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1962. He specializes in ear, nose, throat and maxillofacial surgery.

George Wong, Jr., M.D., 1636 S. Glenstone, Springfield, has become a member of Greene County Medical Society. Dr. Wong is a native of Canton, China, received his preliminary education at the University of Colorado and his M.D. degree at the University of Lausanne in 1957. He specializes in neurology.

Calvin W. Woodruff, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Woodruff is a native of New Haven, Connecticut, received his preliminary education at Yale College and his M.D. degree at Yale Medical School in 1944. He specializes in pediatrics.

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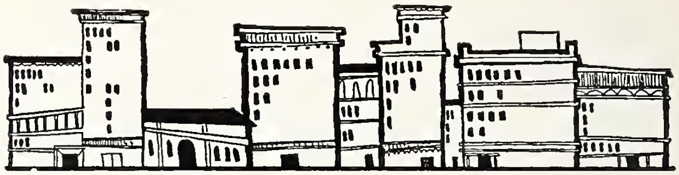
From the Medical Schools



WASHINGTON UNIVERSITY

A grant of $522,430, which has been received from the W. K. Kellogg Foundation by Washington University School of Medicine, will enable the Medical School and the Associated Hospitals to launch programs designed to improve the organization and provision of health services to the public and to reduce the cost of such services.

The Foundation monies, over a span of five years, will assist the Washington University and Associated Hospitals Corporation in creating an Outpatient Research and Planning Unit and in developing a Division of Medical Care to be established in the Department of Preventive Medicine at the Medical School. For a period of three years, the Foundation grant also will assist the upgrading of the University's Graduate Program in Hospital Administration.

The Board of the Washington University and Associated Hospitals desires to broaden its commitment beyond the basic teaching, research and patient care to encompass responsibility for planning and evaluating medical services for its whole area of influence.

DOCTOR
Bill O'Malley

"No, young lady . . . it's my FOOT that's bothering me!"

The Kellogg Foundation since the 1930's has assisted efforts toward the integration of preventive medical services into the offices of the physician and dentist and continues to have concern pertaining to the comprehensiveness of medical care and a resulting improvement in quality at reasonable cost. The Foundation believes the pilot programs at Washington University offer opportunities for experimental efforts specifically designed to further overall medical care goals.

Washington University and the Jewish Hospital of St. Louis have jointly announced the creation of the Harry Edison Professorship of Surgery at the Washington University School of Medicine and the appointment of Dr. Arthur E. Baue to serve both as surgeon-in-chief at Jewish Hospital and as Harry Edison Professor of Surgery at the University. Dr. Baue is presently associate professor of surgery at the University of Pennsylvania and will come to St. Louis on July 1, 1968.

This Professorship has been made possible by a gift of $500,000 from the Harry Edison Foundation to the University. Prior to his death in March, 1966, Mr. Edison served for many years on the Board of Directors of Jewish Hospital and was chairman and treasurer of Edison Brothers Stores, Inc.

Dr. Stanford Wessler, John E. and Adeline Simon Professor of Medicine, has been elected president of the Washington University Medical Society. The organization is composed of all members of the School of Medicine faculty and students.

Dr. Charles W. Parker, associate professor of medicine, is secretary-treasurer of the Society. Council members are Drs. John M. Kissane, associate professor of pathology; Philip W. Majerus, assistant professor of medicine and biological chemistry; Donald H. Eldredge, research professor of otolaryngology; J. Russel Little, Jr., assistant professor of microbiology and of medi-

(Continued on page 151)

Medical Schools (Cont'd)

cine; and Blake W. Moore, associate professor of biochemistry in psychiatry. Dr. Carl G. Harford, professor of medicine, is the the retiring president.

UNIVERSITY OF MISSOURI

An area of learning, which has not been included by most American medical schools the past 15 or 20 years, is now being taught at the School of Medicine. The course is forensic medicine, taught by Dr. John F. Edland, assistant professor of pathology. Its purpose is to teach doctors to be knowledgeable in legal matters. Doctor Edland will be assisted by an attorney from the Law School.

The course is to be taught to second year students and then reinforced when the student is in his fourth year of medical school.

Dr. Donald M. Griggs, associate professor of physiology and medicine, has received a Research Career Development Award from the USPHS (National Heart Institute). His current research on the effects of inflow resistance on coronary hemo-dynamics involves a study with animals to produce changes in coronary circulation similar to those occurring in man.

Two members of the School of Medicine faculty, Dr. Gwilym S. Lodwick and Dr. Arnold A. White, are on sabbatical leaves this year.

Doctor Lodwick, professor of radiology, is spending a year in London as a special research fellow for the National Institute of General Medical Sciences, working on expanding computer diagnosis of bone disease.

Widely recognized for his work in this field, Dr. Lodwick has been named a visiting fellow at Middlesex Medical School and honorary research fellow at the Royal Orthopedic Hospital. Both are affiliated with the University of London.

Doctor White, associate professor of biochemistry and research associate at the Space Sciences Research Center, is in Bethesda, Md. to conduct research at National Institutes of Health. His research concerns purification and the chemical and biological properties of a comparatively new thyroid hormone, thyrocalcitonin.

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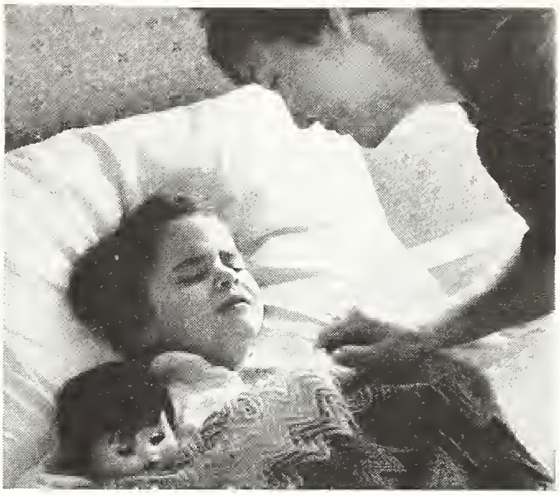

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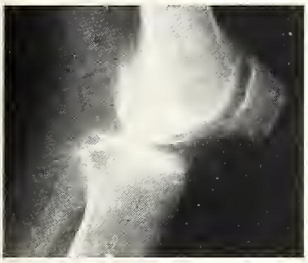

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ediately after meals or with milk to minimize
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sh accompanied by fever or other systemic
actions usually requires withholding medica-
on. Purpuric rash has also been reported.
granulocytosis or a generalized allergic reac-
on similar to a serum sickness syndrome may
cur and require permanent withdrawal of
edication. Stomatitis, salivary gland enlarge-
ent, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: Initial: 3 to 6 tablets daily in divided doses. It is usually unnecessary to exceed 4 tablets daily. A trial period of 1 week is adequate to determine response; in the absence of a favorable response, discontinue. Maintenance: An effective level is often achieved with 1 or 2 tablets daily, do not exceed 4 daily. 6562-VI(B)R2

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AMA Adopts Expanded Statement of Purpose

Broad initiative in advancing health care for everyone is detailed in an expanded statement of purposes and responsibilities of the American Medical Association adopted by its House of Delegates and disseminated to all AMA members.

The 11-point document greatly enlarges upon the previous statement of AMA purposes. It puts the skills and resources of the world's largest medical organization behind a continuing effort to stimulate progress in all aspects of health care in America.

The statement declares that it is the responsibility of the AMA, as the representative of the American medical profession, to continue to foster the advancement of medical science and the health of the American people and to discharge that responsibility through the following means:

1. By encouraging the advancement of medical knowledge, skills, techniques and drugs; and by maintaining the highest standards of practice and health care.
2. By creating incentives to attract increasing numbers of capable people into medicine and the other health-care professions.
3. By advancing and expanding the education of physicians and other groups in the health-care field.
4. By motivating skilled physicians who have the art of teaching to apply themselves to developing new generations of excellent practitioners.
5. By fostering programs that will encourage medical and health personnel to serve voluntarily in the areas of need for medical care.
6. By developing techniques and practices that will moderate the costs of good medical and health care.
7. By seeking out and fostering means of making all health care facilities—physicians' offices, hospitals, laboratories, clinics and others—as efficient and economical as good medical practice and attention to human values will permit.
8. By combining the utilization of the latest knowledge for prevention and treatment with the vital healing force of the physician's personal knowledge of and devotion to his patient.
9. By maintaining the impetus of dedicated men and women in providing excellent health care by preserving the incentives and effectiveness of unshackled medical practice.
10. By maintaining the highest level of ethics and professional standards among all members of the medical profession.
11. By providing leadership and guidance to the medical profession of the world in meeting the health needs of changing populations.

Rheumatic Fever Programming to Meet Society Needs

As an adjunct to the Missouri Division of Health rheumatic fever programs, the Division has announced that speakers are available for medical society, specialty and hospital staff meetings.

In order to accommodate the varied needs of physicians throughout the state, these programs may be tailored to the individual requirements of the local society program director, etc. For example, if a one hour program relating to the diagnosis and management of the rheumatic fever patient is required, it may be arranged without cost to the group. If a program concerning only the streptococcal detection, culturing and secondary prevention prophylaxis programs are preferred, this one-half hour presentation also may be obtained.

For information contact:

Harry F. Kaphingst, Public Health Advisor
The Division of Health of Missouri
Section of Personal Health Services
Heart Disease Control
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Jefferson City, Missouri 65101
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WANTED—General practitioner to work with established surgeon in the metropolitan St. Louis area. Salary first year, then partnership if desired. I have staff privileges at St. Josephs Hospital in St. Charles and St. John's Mercy in St. Louis. Contact Box 341, c/o Missouri State Medical Association, 515 East High Street, Jefferson City, Mo. 65101.

FOR SALE—F.O. Machine, Alpine quartz mercury lamp, heat lamp, Spencer Microscope, projects chart, test lense set and trial frame. D. E. Blacklock, M.D., King City, Mo. 64463.

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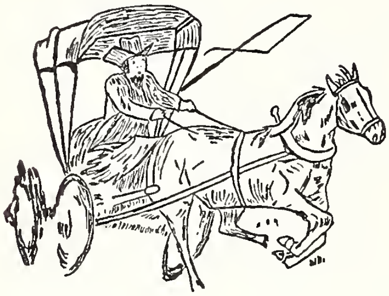
Missouri Medicine in Review



FORTY YEARS AGO

The American Medical Association has appealed to Congress to relieve physicians from the unjust discrimination imposed upon them by the Commissioner of Internal Revenue who refuses to allow physicians to deduct from their income tax traveling expenses incurred while attending medical meetings and postgraduate courses. Since the deduction of expenses while attending meetings has been permitted by the Commissioner of Internal Revenue for certain other professions and businesses, the medical profession is not asking for a special ruling in their favor.

The regular meeting of the Boone County Medical Society was held on Dec. 13, 1927. Dr. William R. Schaeffer presided in the absence of the president, Dr. Lloyd Simpson. The following officers were unanimously elected for the ensuing year: President, M. P. Neal; vice president, E. D. Baskett; secretary, H. P. Muir; delegate to the State meeting, R. S. Battersby; alternate, W. P. Dysart. All live in Columbia.—The meeting of the Clinton County Medical Society on Dec. 14, 1927, was called to order by the president, Dr. C. H. Risley, Cameron. The following members were present: Drs. A. O. Gilliland, V. B. Janes, M. L. Peters, L. A. Wilson and C. H. Risley, Cameron; R. W. Rea and P. M. Steckman, Plattsburg.

Dr. Edgar S. Allen, Columbia, professor of anatomy at the Medical School of the State University, has been promoted to the position of assistant dean of the Medical School.

Dr. Kerwin W. Kinard, Kansas City, was installed as president of the Jackson County Medical Society.

TWENTY-FIVE YEARS AGO

A dinner honoring members of the 70th General Hospital Unit was given in St. Louis on December 28 by the faculty of St. Louis University, sponsor of the unit. Lieut. Col. Curtis H. Lohr is director of the unit.

Several women physicians have been elected as officers of component societies recently. Dr. C. Souter Smith, Springfield, was elected president of the Greene County Medical Society and is the first woman to become president of that Society. Dr. Bertha E. S. Sheetz, Trenton, was elected president of the Grundy-Daviess County Medical Society. Dr. Grace S. Mountjoy, who will represent the St. Louis Medical Society as a delegate at the 1943 MSMA Annual Session, is that Society's first woman delegate. Dr. Ida May Nulton, Lancaster, has been serving in official positions with the Schuyler County Medical Society, the Adair-Schuyler County Medical Society and the North Central Counties Medical Society since 1930.

TEN YEARS AGO

Dr. Joseph C. Edwards, Clayton, was installed as president of the Mississippi Valley Medical Society recently.—Physicians who were elected as officers of the medical staff of Missouri Methodist Hospital in St. Joseph are Drs. Lucien W. Ide, St. Joseph, president; Claude S. Grant, St. Joseph, first vice-president; Manning E. Grimes, St. Joseph, second vice-president; and P. T. Luckenbill, Plattsburg, secretary-treasurer.

Dr. James Barrett Brown, St. Louis, has been elected president of the Western Surgical Association.—A St. Louis physician, Dr. Louis T. Byars, was named president-elect of the American Society of Plastic and Reconstructive Surgery at the last annual meeting in San Francisco.

Newly elected officers of St. Francis Hospital in Maryville are Drs. W. R. Jackson, chief of staff; E. D. Imes, assistant chief of staff; and G. R. Wempe, secretary. Doctor Jackson succeeds Dr. H. C. Bauman.

The Audrain County Medical Society held a dinner meeting with the Callaway and Montgomery County Medical Societies in Mexico. The wives and members of the Woman's Auxiliary were guests.

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Missouri Medicine

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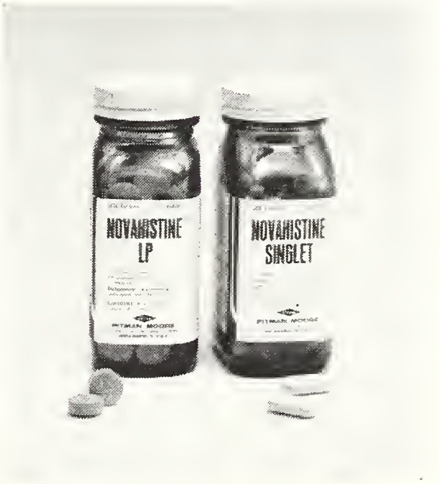

Continuing Education Coming Events

March 5-8	**Oncology: A Curriculum in Cancer** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
March 6-7	**Coronary Heart Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia (12⅓ hours AAGP credit)
March 14	**AMA Lecture in Clinical Nutrition** Lincoln University, Jefferson City
March 22-23	**20th Annual Midwest Cancer Conference** Broadway Hotel, Wichita, Kansas (Category II Credit)
March 23-24	**Missouri Society of Anesthesiologists, Inc.** Annual Meeting, Kansas City
March 27-28	**Disorders in Clinical Immunology** Continuing Education, M.U. School of Medicine Medical Center, Columbia
April 16	**14th Seminar in Urology** Continuing Education, M.U. School of Medicine Medical Center, Columbia
April 17-18	**14th Seminar in Urology** Continuing Education, M.U. School of Medicine Kansas City
April 18	**American Association for the History of Medicine** Hosts: Washington U. School of Medicine and Department of History Chase-Park Plaza Hotel, St. Louis
April 22-26	**Workshop in Pediatric Radiology** Continuing Education, M.U. School of Medicine Kansas City

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Preliminary Program

110th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 28-31, 1968**

Thursday, March 28

12:00 NOON Registration of Delegates.
3:00 PM House of Delegates Meeting, opening session.
5:30 PM Reference Committee meetings.

Friday, March 29

8:00 AM Registration.
9:00 AM *Government in Medicine.* (Sponsored by the MSMA Committee on Medical Economics.)
Moderator: Rae W. Froelich, M.D., Lebanon.
1. *Medicaid in Missouri,* Mr. Proctor Carter, Director, Division of Welfare, Jefferson City.
2. *The Cost Benefit Theory,* William Bryant, Ph.D., University of Missouri School of Medicine, Columbia.

9:00 AM *Manned Space Flight 1968: A Medical Appraisal,* Colonel John W. Ord, M.C., USAF, Brooks Air Force Base, Texas.
10:30 AM Intermission to view exhibits.
11:00 AM *Medical Economics Program continued.*
1. *The Practice of Medicine Today and Tomorrow,* Mr. Wayne Conwell, Professional Management Consultant, St. Louis.
2. *The Case for the Corporate Practice of Medicine,* Mr. William Boles, Attorney, St. Louis.

11:00 AM *Prevention of Rh Iso-Immunization by the Use of Anti D Antibodies,* Eugene G. Hamilton, M.D., St. Louis. (Sponsored by the MSMA Committee on Maternal Welfare.)
12:00 NOON Fifty-Year Club Luncheon.
Committee on Maternal Welfare Luncheon.
General Luncheon: *Computer Medicine,* Vernon E. Wilson, M.D., Executive Director for Health Affairs, University of Missouri, Columbia, followed by Missouri University Medical Alumni Awards Program.
2:00 PM General Surgical Session. (Sponsored by the Missouri State Surgical Society.)
Surgical Indications for Hiatal Hernia Repair, O. T. Clagett, M.D., Rochester, Minnesota.
Symposium on Biliary Tract Surgery
Moderator: John A. Growdon, M.D., Kansas City.
Panel Participants:
O. T. Clagett, M.D., Rochester, Minn.
Alan Thal, M.D., Kansas City, Kansas.
William Monafo, M.D., St. Louis.
Hugh E. Stephenson, Jr., M.D., Columbia.
2:00 PM *Pediatric Shiskabob* (Sponsored by the Missouri Chapter, American Academy of Pediatrics).
Moderator: C. Read Boles, M.D., Clayton.
Panel Participants:
Selected Aspects of Head Injury in Children, Philip R. Dodge, M.D., St. Louis.
The Study and Treatment of Intravascular Coagulation in Children, Arthur E. McElfresh, St. Louis.
Diseases Which Masquerade as Asthma in Children, George B. Logan, M.D., Rochester, Minn.
2:00 PM *Do's and Don'ts in Establishing Your Community Hospital's Cardiovascular Care Unit.* (Sponsored by the Missouri Regional Medical Program and the Missouri Chapter, American College of Chest Physicians.)
Moderator: Glenn O. Turner, M.D., Springfield.
Panel Participants:
Cecil R. Auner, M.D., Springfield.
Loren E. Broaddus, M.D., Springfield.
J. William Cheek, M.D., Springfield.
Thomas E. Cochran, Jr., M.D., Springfield.
Oral B. Crawford, M.D., Springfield.
John J. McKinsey, M.D., Springfield.

Subject matter to be discussed includes:
A. *Feasibility.*
B. *Costs.*
C. *Financing.*
D. *Equipment Selection, Unit Size and Location.*
E. *Training Programs.*
F. *Limitations.*
3:30 PM Intermission to view exhibits.
4:00 PM House of Delegates, second session.
5:30 PM Missouri State Medical Foundation Annual Meeting.
6:00 PM Reference Committees.

Saturday, March 30

8:00 AM Registration.
9:00 AM *Management of the Failing Heart.* (Sponsored by the Missouri Heart Association.)
Moderator: Albert M. Estes, M.D., Cape Girardeau.
Panel Participants:
1. *Treatment of Right and Left Heart Failure,* Robert J. Adolph, M.D., Cincinnati, Ohio.
2. *Arrhythmias in Acute Myocardial Infarction,* Peter C. Gazes, M.D., Charleston, S. C.

9:00 AM *Medicine and Religion.* (Sponsored by the MSMA Committee on Medicine and Religion.)
Moderator: Rev. Paul B. McCleave, Director of the AMA Department of Medicine and Religion, Chicago, Illinois.
Panel Participants:
R. Paul Ferguson, M.D., Lake City, Iowa.
Loyal W. Combs, Jr., M.D., Lafayette, Indiana.
Rev. Thomas F. Zimmerman, D.D., Springfield.
Robert M. Myers, M.D., D.D., Kansas City.
Topics to be discussed:
A. *Alcoholism.*
B. *Drug Addiction and Drugs on the Campus.*
C. *Contraceptives and the Co-Ed.*
9:00 AM *Pediatric Ophthalmology.* (Sponsored by the Missouri Ophthalmological Society.)
Moderator: Stephen F. Bowen, Jr., M.D., St. Louis.
The Importance of Early Diagnosis of Strabismus, Gunter K. von Noorden, M.D., Baltimore, Md.
The Fitting of Contact Lenses in Infants and Children, Harry R. Brady, M.D., St. Louis.
Congenital Glaucoma, Alan E. Kolker, M.D., St. Louis.
Congenital Anomalies of the Eye, Carl H. Ide, M.D., Columbia.
Simple Test for Fusion in Young Children, Samuel T. Jones, M.D., Kansas City.
10:30 AM Intermission to view exhibits.
11:00 AM *Emergency Care and Transportation of Injured in Missouri.* (Sponsored by the Missouri State Committee on Trauma of the American College of Surgeons.)
Moderator: Franklin L. Mitchell, M.D., Columbia.
1. *How Good Is Ambulance Service in Missouri,* Marjorie Dale, M.D., Columbia.
2. *The Ambulance—Minimal Versus Optimal Standards,* Marshall Conrad, M.D., St. Louis.
3. *The Ambulance Attendant—How Much Can Be Accomplished?,* Hugh E. Stephenson, Jr., M.D., Columbia.
4. *The Training of the Ambulance Attendant,* John L. Barnard, Jr., M.D., Kansas City.

Summation—Oscar Hampton, M.D., St. Louis.
11:00 AM *Management of the Anxious Patient.* (Sponsored by the Missouri Academy of Psychiatry.)
Moderator: Retus W. Osborn, III, M.D., Farmington.
1. *Psychotherapeutic Approach to the Management of the Anxious Patient,* Charles B. Wilkinson, M.D., Kansas City.
2. *Pharmacological Approach to the Management of the Anxious Patient,* Joseph W. Lamberti, M.D., Columbia.
3. *Management of the Anxious Patient by the Family Physician,* Douglas Goldman, M.D., Cincinnati, Ohio.

11:00 AM *The Office Practice of Internal Medicine.* (Sponsored by the Missouri Society of Internal Medicine.)
Moderator: John I. Matthews, M.D., Jefferson City.
Panel Participants:
Dwight L. Wilbur, M.D., San Francisco, Calif., Special Guest Panelist.
Insurance Coverage of Office Procedures, Frank M. Maple, M.D., Springfield.
Periodic Examinations and Multi-Phasic Screening, William D. Perry, M.D., St. Louis.
Some Medical Aspects of Commercial Aviation, Albert I. Decker, M.D., Kansas City.

12:30 PM General Luncheon: *Health Manpower . . . Where Do We Go From Here?* Dwight L. Wilbur, M.D., San Francisco, President-Elect, American Medical Association.

2:30 PM *Symposium on Lower Extremity Amputee.* (Sponsored by the Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine, Columbia.)
Moderator: Lester Wolcott, M.D., Columbia.
Panel Participants:
Comprehensive Management, Lester Wolcott, M.D., Columbia.
Geriatric Amputee, Victor C. Schell, M.D., Columbia.
Case Presentation
Panel: Victor C. Schell, M.D.
Robert W. Allen, M.D.
Raymond Hogue, Ph.D.
James Verhoff, C.P.
Daniel Haney, C.P.
Immediate Post-Surgical Fitting—Lecture and Demonstration.
Panel: Robert W. Allen, M.D.
James Verhoff, C.P.
Daniel Haney, C.P.

2:30 PM *Symposium on Complex Intraabdominal Problems.* (Sponsored by the Department of Surgery, Washington University School of Medicine, St. Louis.)
Moderator: Walter F. Ballinger, II, M.D., St. Louis.
Panel Participants:
1. *Management of Postgastrectomy Syndromes*, Walter F. Ballinger, II, M.D., St. Louis.
2. *Aorto Iliac Occlusive Disease*, Harvey R. Butcher, Jr., M.D., St. Louis.
3. *Severe Intraabdominal Trauma*, John A. Collins, M.D., St. Louis.

2:30 PM *Symposium on Radioactive Isotopes.* (Sponsored by the Department of Radiology of the St. Louis University School of Medicine, St. Louis.)
Moderator: Don C. Weir, M.D., St. Louis.
1. *Radioisotopes, Scintiphotos and Scans*—In Diagnosis, John L. Bircher, M.D., St. Louis.
2. *Paranasal Sinuses*—Roentgen Evaluation, James M. Martin, M.D., St. Louis.
3. *General Vascular Radiology*, Sumner Holtz, M.D., St. Louis.

4:00 PM Intermission to view exhibits.

7:15 PM Annual Banquet honoring Past Presidents of MSMA.
Guest Speaker: Bill Vaughan, Kansas City.
Social Hour for those attending the Banquet at 6:30 PM
Dancing until Midnight.

Sunday, March 31

7:30 AM House of Delegates Meeting, breakfast and final session.

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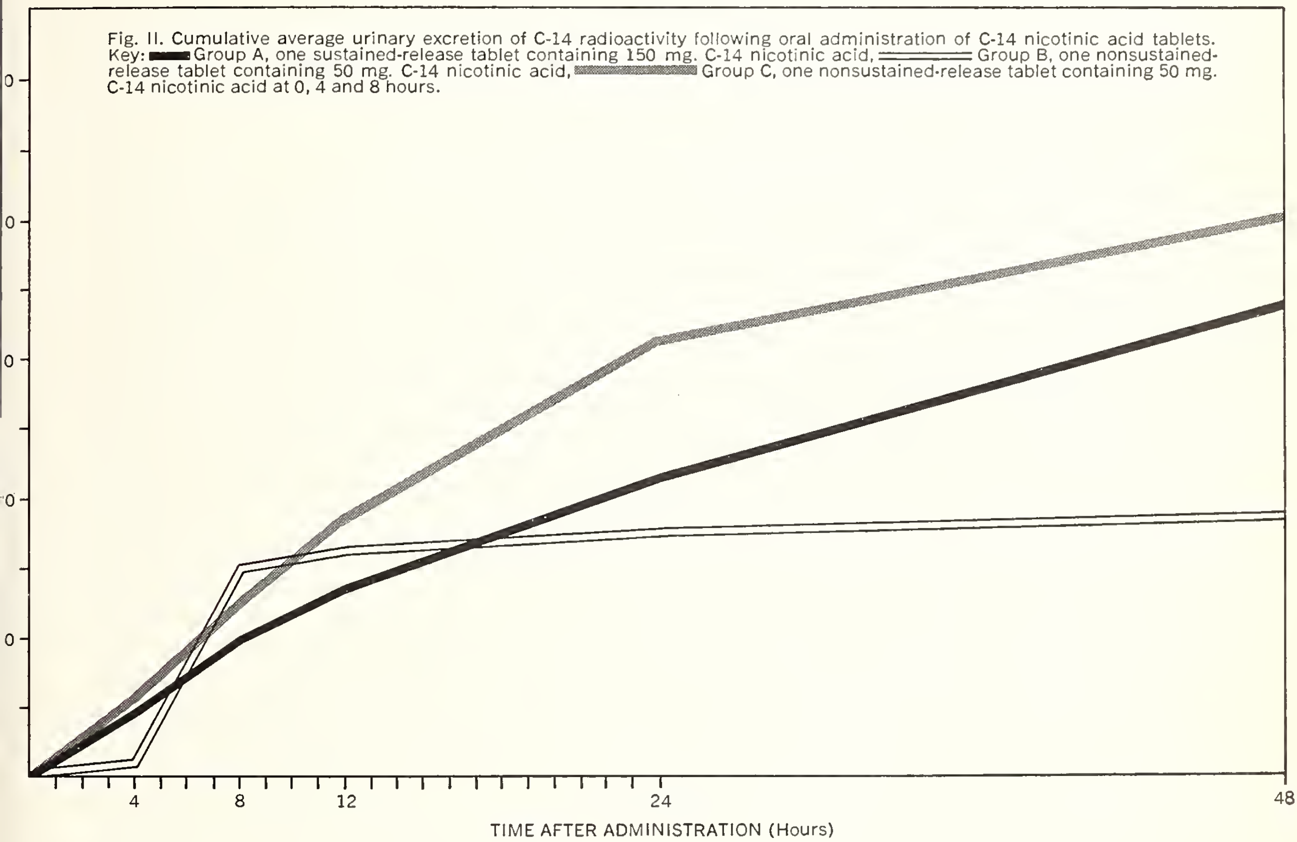

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

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References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS MISSOURI ASSOCIATION OF BLOOD BANKS

21st Annual Spring Convention

Muehlebach Hotel, Kansas City **March 28, 29, 30, 1968**

ROOMS 471-473

Thursday, March 28

9:00 AM Invocation, Lois Brunner, MT(ASCP)
9:05 AM Address of Welcome, Mary Ann Kaufman, MT(ASCP), President of MSMT
9:10 AM *The Medical Technologist as a Teacher,* Dr. C. Kermit Phelps
9:40 AM *The Diabetic Detection Drive in Kansas City—1967; Its Implication and Projection,* Charles W. Sisk, M.D.
10:30 AM Break
10:45 AM *Serum Lipids and Heart Disease,* Dr. Samuel Levin
11:45 AM *Methodology of Lipid Testing,* Rachael Creager, MT(ASCP)
12:00 NOON Lunch
1:30 PM *Metabolism and Value of Newer Enzymes in Relation to Heart Disease,* Frank Mantz, M.D.
2:15 PM *The Technologist Factor vs. Cardiac Enzymes,* Margaret Rasey, MT(ASCP)
2:30 PM *Critical Evaluation of a Scientific Paper With Special Reference to Medical Articles,* George X. Trimble, M.D.
3:00 PM Break
3:15 PM *Importance of Bio-Ware in the Clinical Laboratory,* Leo Cawley, M.D.
4:15 PM *Immunoglobulins,* Sister Patrick Mary, MT(ASCP)

Friday, March 29

9:00 AM *Chemistry of Methenamine Silver Staining,* B. Peterson, M.D.
9:30 AM *Vietnam Medical Education Project,* Fred Lucas, M.D.
10:00 AM *Data Processing and the Hospital Laboratory,* Richard O'Kell, M.D.
11:00 AM *The Latest on Licensure,* Bobbie Moehlman, MT(ASCP)
12:00 NOON Student Luncheon

MISSOURI ASSOCIATION OF BLOOD BANKS

1:30 PM Address of Welcome, Thomas J. Fritzlen, M.D., Retiring President of MABB
1:35 PM *Prevention of Rh Isoimmunization by the Use of Anti-D-Antibodies,* Eugene G. Hamilton, M.D.
2:15 PM *Current Status and Evaluation of Results of Intranterine Transfusion,* Othello D. Smith, M.D. and Margaret Scales, M.D.
3:00 PM Break
3:15 PM *Quality Control in Blood Banking*
4:00 PM Panel—Questions and Answers
5:00 PM Business Meeting—Missouri Association of Blood Banks. Room 471
7:00 PM Board of Directors Meeting—Missouri Society of Medical Technologists, Room 471

Saturday, March 30

9:00 AM *The Epidemiology of Leukemia,* John C. Rowse, M.D.
9:30 AM *Malaria Studies for Vietnam,* John Arnold, M.D.
10:15 AM Break
10:30 AM *Immunology in Action Throughout the Laboratory,* Mary Heckman, Ph.D., MT(ASCP)
11:15 AM *Introduction and Application of Fluorescent Microscopy in the Clinical Microbiology Laboratory,* Philip A. Moskal, Ph.D.
12:00 NOON Lunch
1:00 PM Business Meeting—Missouri Society of Medical Technologists
6:00 PM Social Hour and Banquet

OFFICIAL DELEGATES

110th MSMA Annual Session

County	*Delegates*	*Alternates*
Andrew	Warren C. Baker, Savannah	Gilbert B. Kelley, Savannah
Audrain	Harry F. O'Brien, Mexico	Benjamin N. Jolly, Mexico
Barton-Dade	Vern T. Bickel, Lamar	Herbert Arnold, Lamar
"	Lee McNeel, Greenfield	H. A. Bauer, Lockwood
Benton	James A. Logan, Warsaw	
Boone	John T. Logue, Columbia	Thomas W. Burns, Columbia
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"	John H. Walters, Columbia	Ray B. Lewis, Columbia
"	Robert L. Jackson, Columbia	Benedict A. Moranville, Columbia
"	William B. See, Columbia	Reginald P. Pugh, Columbia
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"	Ernest E. Wadlow, St. Joseph	William B. Rost, St. Joseph
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"	Harold Cline, Piedmont	B. M. McLain, Poplar Bluff
"	Gene Leroux, Doniphan	T. Eugene Ruff, Poplar Bluff
Callaway	James K. Ritterbusch, Fulton	Henry Durst, Fulton
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"	Melvin Kasten, Cape Girardeau	Seth Barnes, Cape Girardeau
"	Harold Rapp, Cape Girardeau	Jo R. Cochran, Cape Girardeau
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Chariton-Macon-Monroe-Randolph	Daniel D. Stuart, Brunswick	F. L. Harms, Salisbury
"	James E. Campbell, Macon	Donald E. Eggleston, Macon
"	Floyd A. Barnett, Paris	George M. Ragsdale, Paris
"	Avery P. Rowlette, Moberly	Philip V. Dreyer, Huntsville
Clay	Dean F. Werner, North Kansas City	Donald E. Kuenzie, Kansas City
"	James R. Allen, Excelsior Springs	Donald A. Fakhoury, Kansas City
"	Paul Revare, Kansas City	Phillip E. King, Liberty
Clinton	P. T. Luckenbill, Plattsburg	L. A. Ozenberger, Plattsburg
Cole	G. Donald Shull, Jefferson City	Byron E. Watts, Jefferson City
Cooper	Byron M. Stuart, Boonville	
Dallas-Hickory-Polk	O. A. Griffin, Buffalo	Evelyn Griffin, Buffalo
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Dunklin	Joe A. Zimmerman, Kennett	George Q. Dunmire, Kennett
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"	Paul Brenner, Owensville	George Workman, Hermann
"	Harold Hoelscher, Warrenton	Grover C. Johnson, Marthasville
Grand River		
Caldwell	Frank R. Daley, Hamilton	Howard Carter, Hamilton
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Davies	Fred K. Wilson, Winston	Erroll Allen, Carrollton
DeKalb	James H. Sweiger, Maysville	Joseph Conrad, Chillicothe
Grundy	Chester L. Clark, Trenton	A. D. Cross, Trenton
Harrison	Willard Ellsworth, Cainsville	Watkins A. Broyles, Bethany

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"	Robert G. Powell, Joplin	S. D. Papp, Joplin
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"	Earl E. Gilfillan, Memphis	
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"		
"		
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Knox		
Schuyler		
Sullivan		
Putnam		
Northwest		
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Taney	Loraine Schultz, Branson	T. A. Morrison, Aurora
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McDonald	George Blankenship, Neosho	
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Platte		
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"	Richard J. Dames, St. Louis	Edward S. Rader, St. Louis

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”	Max S. Franklin, St. Louis	Willard Bartlett, Jr., St. Louis
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		A. T. Walker, Thayer
Oregon	C. W. Cooper, Thayer	Springs
Texas	Joe Wall, Houston	
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Douglas	Marvin Gentry, Ava	
Ozark		
Webster	Thomas M. Macdonnell, Marshfield	Robert J. Bareis, Marshfield
West Central		
Bates	Curtis Long, Butler	Robert Strobach, Butler
Cass	Alfred Eklund, Pleasant Hill	Robert Wheeler, Harrisonville
Cedar	Robert Magee, Eldorado Springs	William Richter, Stockton
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Vernon	James J. Pascoe, Nevada	William Allen, Nevada

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44th HODGEN LECTURE

Guest Speaker

CURTIS P. ARTZ, M.D.

Professor of Surgery and Chairman of the Department
Medical College of South Carolina
and
Chief of Surgery
Medical College Hospital and Charleston County Hospital
Charleston, South Carolina

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St. Louis Medical Society Auditorium
3839 Lindell Boulevard

All Members of the Profession Invited

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For the 110th Annual Session

Booth No.	
4	Abbott Laboratories North Chicago, Illinois
34	Aloe Medical St. Louis, Missouri
15	Altman-Singleton & Co. Kansas City, Missouri
52	Astra Pharmaceutical Products, Inc. Worcester, Massachusetts
54	Ayerst Laboratories New York, New York
13	Blue Cross-Blue Shield Kansas City, Missouri
49	Bristol Laboratories Syracuse, New York
27	Ciba Pharmaceutical Company Summit, New Jersey
9	The Coca-Cola Company Atlanta, Georgia,
21	Creative Systems, Inc. Waterloo, Iowa
56	Dome Laboratories New York, New York
7	Eaton Laboratories Norwich, New York
3	The Emko Company St. Louis, Missouri
22	Encyclopaedia Britannica, Inc. Chicago, Illinois
35	Flint Laboratories Morton Grove, Illinois
46	Hoechst Pharmaceutical Company Cincinnati, Ohio
5	E. F. Hutton & Company, Inc. Kansas City, Missouri
53	Institute of Bioengineering Research, Inc. Columbia, Missouri
50	Knoll Pharmaceutical Company Orange, New Jersey
41	Lederle Laboratories Pearl River, New York
31	Eli Lilly and Company Indianapolis, Indiana
8	Mallinckrodt Pharmaceuticals St. Louis, Missouri
2	The Medical Protective Company Fort Wayne, Indiana
20	Merck Sharp & Dohme West Point, Pennsylvania
19	Miller Pharmacal Company St. Louis, Missouri
43	Misemer Pharmaceuticals, Inc. Springfield, Missouri
36-37-38	Missouri Regional Medical Program Columbia, Missouri
12	Missouri Seven-Up Bottlers Ass'n. St. Louis, Missouri
26	Ortho Pharmaceutical Corporation Raritan, New Jersey
45	Parke, Davis and Company Detroit, Michigan
44	Philips Roxane Laboratories Columbus, Ohio
23	Postal Investment Co., Inc. Jefferson City, Mo.
1	Wm. P. Poythress & Co., Inc. Richmond, Virginia
30	Roche Laboratories Nutley, New Jersey
10	Rowell Laboratories Baudette, Minnesota
40	Sandoz Pharmaceuticals Hanover, New Jersey
48	W. B. Saunders Company Philadelphia, Pennsylvania
18	G. D. Searle & Co. Chicago, Illinois
14	Smith Kline & French Laboratories Philadelphia, Pennsylvania
16	Southern Medical Association Birmingham, Alabama
55	E. R. Squibb & Sons New York, New York
17	The Stuart Company Pasadena, California
6-51	Syntex Laboratories, Inc. Palo Alto, California
39	United Medical Equipment Company Kansas City, Missouri
33	University of Missouri Medical Center Columbia, Missouri
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MSMA 110th ANNUAL SESSION

March 28-31 **Muehlebach Hotel, Kansas City**

medical melange

Notes of interest from Here . . . . and There

Dr. Brown

Dr. James Barrett Brown, St. Louis, has been named by *Modern Medicine* as one of ten recipients of that journal's 1968 Awards for Distinguished Achievement. A professor of clinical surgery at Washington University School of Medicine, Doctor Brown is cited for his scientifically-based advances in plastic surgery and his training of many prominent plastic surgeons.

Dr. George A. Johnson has been installed as president of the medical staff at the Springfield Baptist Hospital. He succeeds **Dr. Walter A. German, Jr.** Other new officers are **Dr. Jim K. Waterfield**, vice-president, and **Dr. Max Rosen**, secretary-treasurer.

Dr. Dallas D. Anthony, new president of the Greene County Medical Society, has been described as the "medical society's chief booster for Springfield" by Larry Brown who told of Dr. Anthony's life and accomplishments in a feature story in the *Springfield News & Leader*. Doctor Anthony shares offices with **Drs. Marvin L. Napper** and **Harwood N. Sturtevant** in Springfield.

Dr. Morris Herman has been named the new president of the medical staff of Lutheran Hospital in St. Louis. Other new officers recently elected are **Dr. Harold J. Freiheit**, president-elect; **Dr. Albert J. Gnade**, vice-president; and **Dr. Herluf G. Lund**, secretary-treasurer. Doctor Herman succeeds **Dr. Donald T. Behrens.**

Dr. R. P. Ladenson, clinical associate professor of medicine at the University of Missouri School of Medicine, recently was guest speaker at a luncheon meeting of the Columbia-Boone County League of Women Voters. The Boone County Community Health Center was discussed by Doctor Ladenson who is chairman of the Community Health Committee.

New officers for the medical staff at the Methodist Hospital in St. Joseph will be **Drs. Donald J. Stallard**, president; **Paul Luckenbill**, president-elect; **Charles Willman**, second vice-president; and **F. G. Thompson, III**, secretary-treasurer. **Drs. F. J. Marston, Jr.** and **Owen W. D. Craig** were named executive committee members.

Three members of the St. Louis Medical Society were named for the Society's Honors classification in January. They are **Drs. Goronwy O. Broun, Sr., Curtis H. Lohr** and **Carl V. Moore.** The Honors classification is given for distinguished service to medicine and the community. There are nine members of the Society who hold this designation.

(Continued on page 186)

medical melange (cont'd)

Dr. Francis X. Meier is the new staff president of St. Mary's Hospital medical staff in Jefferson City. He succeeds **Dr. Byron E. Watts. Dr. Robert Tanner** was elected to serve as president-elect and **Dr. Fred P. Handler** was elected secretary-treasurer. Serving on the Executive Committee, in addition to the new officers and Doctor Watts, will be **Drs. James T. Leslie** and **Charles S. Exon.**

Dr. F. R. Crouch, well-known Farmington obstetrician and a Scouter for many years, has received the Silver Beaver Award, Boy Scouting's coveted honor for "noteworthy service of an exceptional character to boyhood over a period of ten or more years by registered Scouters." The surprise presentation was made by **Olin McDaniel**, Bonne Terre, at the St. Louis Council annual meeting and banquet in St. Louis.

Cesar A. Gomez, Creve Coeur, has been elected president and chief of staff of Missouri Baptist Hospital in St. Louis. Serving with Doctor Gomez will be **Dr. William H. Paris**, who was elected vice-president and associate chief of staff. **Dr. Robert E. Thomasson** was named secretary and **Dr. William B. Hutchinson** was re-elected treasurer of the medical staff.

Dr. Irwin T. Craig, Joplin, has been elected a director of the Community National Bank of Joplin.—The American Academy of General Practice at Kansas City has announced the appointment of **Dr. W. J. Shaw**, Sr. of Fayette to a one-year term on the international affairs committee of the national family doctor organization.

A portrait of the late **Dr. Ralph Kinsella, Sr.**, who was professor and director emeritus of the department of internal medicine at St. Louis University School of Medicine, has been presented to the school. **Mrs. E. A. (Ruby) Quasebarth**, St. Louis artist, created the painting which was commissioned by the staff Doctor Kinsella headed for 29 years. Doctor Kinsella died in September, 1966. The portrait is on display at the School of Medicine.

Dr. Anthony F. Catanzaro, has been elected president and chief of staff at Incarnate Word Hospital in St. Louis. He succeeds **Dr. Rosemary R. Larkin. Dr. Charles J. Kromer** was elected vice president and chief of medicine and **Dr. John E. Bryne** will serve as secretary and treasurer.—**Dr. Charles A. Jost** is the new president of the DePaul Hospital medical staff in St. Louis. Other new officers include **Dr. Christopher G. Vournas**, vice-president, and **Dr. Joseph A. Roy**, secretary-treasurer.

SHELDON B. BEECHER, M.D., ***Poplar Bluff*** [*]

Prevention of Tuberculosis: A Guide for Physicians

Special Feature

THIS GUIDE IS PRESENTED by the Tuberculosis Committee of the Missouri State Medical Association as a quick reference source for physicians. Its emphasis is on the preventive aspects of the tuberculosis problem. Although tuberculosis mortality in Missouri has fallen from 34 per 100,000 population in 1946 to four in 1966 and morbidity has fallen from 55 to 24 per 100,000 during the same period, tuberculosis remains a significant costly disease. With the knowledge, drugs and techniques available to us today, it should be possible to accelerate the decline in morbidity and mortality in the years ahead. Drug treatment, both therapeutic and prophylactic, is of paramount importance.

COMMITTEE RECOMMENDATIONS

I. When tuberculosis is first diagnosed or strongly suspected:
  A. Report case to the Health Department.
  B. Consider hospitalization:
    1. For thorough observation and diagnostic work-up
    2. For patient education
    3. For isolation
  C. Tuberculin test contacts.
  D. X-ray positive reactors.
  E. Suspects (tuberculin reactors with suspicious x-ray) should have sputum examinations, with nebulizer induction if necessary, for acid fast organisms.
  F. Retest tuberculin negative contacts every three months as long as exposure exists and until at least three months have elapsed since last exposure.
  G. Individuals whose tuberculin tests change from negative to positive within a year are classified as converters. In addition to a thorough examination for tuberculosis, it is imperative that they be placed on prophylactic INH.

II. After Patient leaves the hospital:
  A. Continue the drug therapy prescribed and advised for a minimum of two years.
  B. If adverse symptoms or adverse x-ray changes occur, re-hospitalization is indicated for re-evaluation.
  C. Do not neglect sputum culture examinations on all who expectorate. Because of the problem of atypical organisms, it is recommended that positive cultures be confirmed at the Missouri State Sanatorium laboratory or other laboratories capable of specialized studies. There are differences between the disease caused by typical organisms, by mycobacteria tuberculosis and by atypical acid fast organisms. There may be need for different types of treatment. Sensitivity testing of cultures against usual drugs used in tuberculosis treatment is mandatory for adequate therapy. When in doubt seek help from:
    1. Tuberculosis sanatorium.
    2. A physician familiar with tuberculosis and chest diseases.
    3. Tuberculosis clinic.
  D. Follow all diagnosed cases in patients who are on treatment with sputum examinations and x-rays at least at six month intervals. During the first year of post-sanatorium care, it is suggested that sputum examinations and x-rays be spaced at three month intervals.
  E. Follow all inactive cases, including chest x-rays, a minimum of five years and preferably for life. Among new active cases, 75% or more occur as a result of breakdown of an infection which occurred some time in the past.

III. Chemoprophylaxis: INH is recommended for the prevention of tuberculosis in any

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[*] Doctor Beecher is a member of the MSMA Committee on Tuberculosis.

SCHEDULE OF EXAMINATION FOR CONTACTS

			Subsequent Examinations HOUSEHOLD AND OTHER CLOSE CONTACTS	
Current clinical status of patient with whom contact is associated	Initial examination of contacts (household and other close contacts)	Tuberculin and x-ray status of contacts	Continued contact	Contact broken
Active	Tuperculin test contacts and x-ray reactors	Tuberculin reactors with negative x-ray	X-ray every three months	X-ray at three to six month intervals for first year and annually thereafter
		Tuberculin non-reactors with negative x-ray	Tuberculin-test every three months	Tuberculin-test in three months. Discharge if negative
1. Inactive	Same as above	Tuberculin reactors with negative x-ray	None	None
2. Primary active and pleural effusion		Tuberculin non-reactors with negative x-ray	None	None
Quiescent	If not examined before, contacts should be examined as for an inactive case			
Suspect	No follow-up until and unless diagnosis of tuberculosis is established and then proceed according to classification of patient's disease			

person found to have a reaction of 10 mm or more induration to the Mantoux Test using 5 Tuberculin Units of PPD. The usual dosage of INH is 300 mg a day for adults and 10 mg per kilogram of body weight per day for children, not to exceed 300 mg to be administered in a single daily dose for 12 months. INH is a safe, effective and inexpensive drug. Toxicity is low (0.2% to 0.4%) and easily reversible.

Because of the lack of personnel and resources to identify and treat all reactors, it is recommended that chemoprophylaxis be instituted among certain high risk groups as outlined by a special committee representing the National Tuberculosis Association, the American Thoracic Society and the U. S. Public Health Service.

A. Certain inactive cases:
   1. Persons having had active tuberculosis with inadequate or no prior drug therapy.
   2. Persons with x-ray evidence of healed tuberculosis and a positive tuberculin test. Pregnant women in this category should be started on chemotherapy in the last trimester.

B. Tuberculin reactors in certain clinical situations:
   1. Persons on corticosteroids. Conversely, persons should be tuberculin tested prior to corticosteroid therapy.
   2. Post-gastrectomy patients.
   3. Patients with reticuloendothelial disease such as leukemia or Hodgkin's disease.
   4. Patients with unstable diabetes.
   5. Reactors with measles or pertussis should be treated for eight weeks if they have had a previous course of chemoprophylaxis; otherwise, treatment should be continued for one year.

C. Contacts: Household contacts of active cases should receive prophylactic treatment if they have a reaction of 5 mm or more induration to the Mantoux Test. It is unlikely that such reactions in these individuals will represent cross reactions with atypical organisms.

D. Other positive reactors:
   1. Converters, regardless of age. Converters are persons whose tuberculin reaction changes from negative to

    positive within approximately 12 months.
    2. Positive reactors under age 20. Those reactors to age of school entrance and teenagers are particularly at risk.

IV. General aids in tuberculosis prevention:
  A. Tuberculosis chemotherapy sterilizes sputum in a large majority of cases and reduces the risk of spreading the disease among contacts.
  B. Tuberculin testing of children at school entrance or earlier is important since at this young age source cases are easier to find. All reactors should be x-rayed and treated. The family and close associates of a reactor child should be thoroughly checked for tuberculosis with tuberculin tests, sputum examinations, x-rays and other indicated studies.
  C. All school teachers and school employees should be skin tested. Reactors should be x-rayed annually and adequately checked. Nonreactors should be scheduled for annual tuberculin tests.
  D. All eighth graders should be tuberculin tested. Reactors should be x-rayed and treated.
  E. All senior students should be tuberculin tested. Reactors should be x-rayed and treated.
  F. When an individual with active tuberculosis is a public health hazard, his physician should request that action be taken by the health department so the disease is not spread to other individuals.
  G. The status of all patients receiving tuberculosis chemotherapy for any reason whatsoever should be reviewed and reported to the health department at appropriate intervals.
  H. Drugs should not be supplied if an individual's tuberculosis status has not been thoroughly re-evaluated at acceptable intervals.

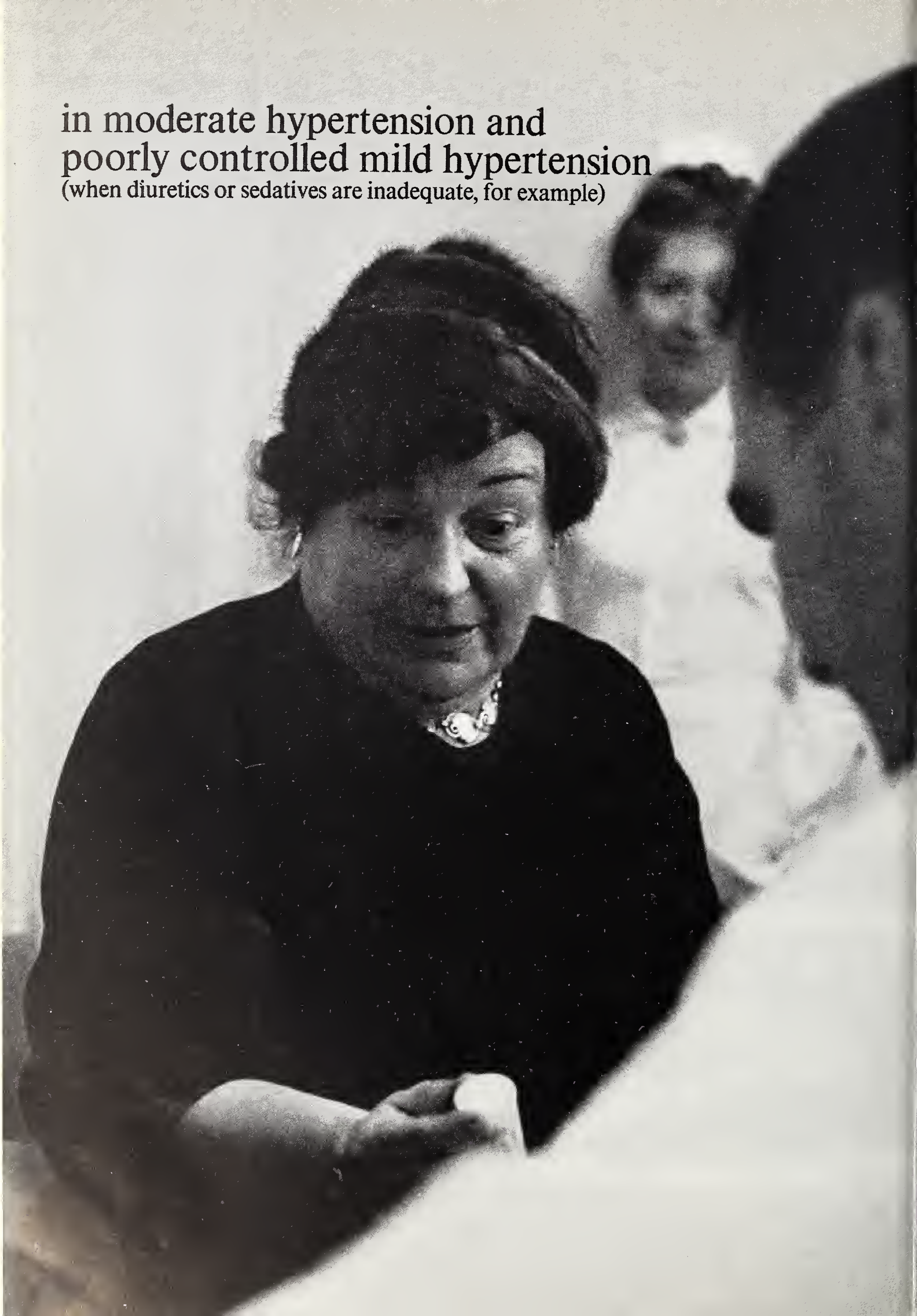
An outpatient clinic to develop and evaluate services for emphysema and chronic bronchitis patients is being set up at the Tucson, Ariz., Medical Center under a contract awarded by the National Center for Chronic Disease Control, U. S. Public Health Service.

Sponsored by the Center's Chronic Respiratory Diseases Control Program, which will administer the $201,688 contract, the clinic will provide comprehensive care on a long-term outpatient basis for patients with symptoms of chronic lung disease.

Emphysema and chronic bronchitis have become urgent health problems throughout the country, and pose special problems for Arizona where the death rate from these diseases is generally three to four times as great as the national rate. In Arizona, chronic chest diseases rank as the fourth leading cause of death, while they rank tenth in the U. S. Emphysema is the second leading cause of Social Security compensated disability in the Nation, but it ranks first in Arizona.

Population movement may be more responsible for this excess number of chronic respiratory disease deaths than environmental factors or special susceptibility. The percentage of deaths in Arizona attributed to chronic respiratory disease is significantly higher for patients born in other states than for native Arizonians, not because native Arizonians are less susceptible, but because such a preponderance of respiratory patients living in the State migrated there from other parts of the country, seeking relief from their breathing difficulties. The Arizona climate is popularly thought to be beneficial for respiratory disease patients.

The two-year clinical study at Tucson Medical Center will provide care for adult patients with pulmonary emphysema or chronic bronchitis. All referrals must originate from physicians, and each patient must be physically able and motivated to follow for at least one year the program prescribed for him. Patients will receive drug therapy, inhalation therapy, breathing exercises, postural drainage, physical conditioning and regular check-ups. Treatment is geared to the patient's needs and both individual and group approaches will be used.



in moderate hypertension and
poorly controlled mild hypertension
(when diuretics or sedatives are inadequate, for example)

Volume 65, Number 3—March, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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GEORGE L. TUCKER, M.D., *St. Louis*

Necrosis of the Cecum Due to Overdistention

Case Report

Both perforation and necrosis of the cecum are well documented sequelae of cecal overdistention. Such instances have been reported many times as a result of distal obstruction of the colon, usually by a carcinoma.[1-7] The following report documents for the first time an instance of cecal overdistention followed by necrosis and without mechanical distal obstruction.

It has been reported previously that two separate pathologic processes can occur in the overdistended cecum, probably related to the rate at which it is distended.[2] Rapid distention, to pressures of 50 to 100 cm of water, can cause acute perforations without necrosis of the bowel wall. These are sharp elliptic tears on the anterior surface of the bowel, generally starting in the serosa and extending inward.[5] There is usually no sign of acute inflammation. The second process, occurring with less rapid distention and requiring a longer period of time to develop, is related to interference with the blood supply of the bowel wall.[6-8] An increase in the diameter of a segment of bowel results in a threefold increase in its circumference. This results in the stretching of the blood vessels in the bowel wall and, eventually, their collapse. The veins are first affected, followed by the arteries, resulting in a hemorrhagic infarct. This will tend to occur on the antimesenteric border of the bowel.

Lowman and Davis measured cecal size in 100 normal patients subjected to maximal cecal distention during a barium enema.[3] Only three patients reached a diameter of greater than 9 cm. The greatest diameter reached was 10.5 cm. In seven patients with actual cecal perforation due to overdistention, the greatest transverse diameter of the cecum varied from 9.2 to 13 cm measured by a prone film of the abdomen. They concluded that patients with cecal distention of 9 cm or greater should be considered to have impending perforation and should be operated upon as soon as possible.

Case Report

A 73-year-old white woman entered Barnes Hospital on Nov. 15, 1965, because of continued pain in her back and left leg. She had been operated upon for similar complaints on Sept. 7 and a bulging

With this unusual case report, the author documents for the first time an instance of cecal overdistention followed by necrosis and without mechanical distal obstruction. Because of the absence of a frank perforation, primary resection and anastomosis were performed successfully. Doctor Tucker is Assistant in Clinical Surgery, Washington University School of Medicine; Assistant Surgeon, Barnes Hospital; and Consultant, Jefferson Barracks Veterans Administration Hospital.

L4-5 disc was removed. After this procedure, her symptoms had cleared, only to recur five days before admission. The patient had a myocardial infarction in 1960 and had had two episodes of left hemiparesis in the past. She also had suffered from moderate hypertension. She was being treated with warfarin and guanethidine for these disorders. She also suffered from chronic constipation. A barium enema in August had been normal. Physical examination on admission was normal, except for a blood pressure of 170/90, tenderness in the left paraspinal area in the region of L3 and limitation of straight leg raising on the left side to 45°. X-rays of her back and left hip were negative except for retained Pantopaque in the subarachnoid space.

Her pain persisted and, because of this, a laminectomy was performed on Nov. 29. There was no evidence of extruded disc tissue. The dura was opened and extensive arachnoiditis was noted in the subarachnoid space. Postoperatively, the patient still complained of pain in her back and leg. She developed some ileus and required a catheter because of urinary retention. Attempts to remove the Foley catheter were unsuccessful. Because of persistent back pain, the patient was started on dexamethasone on Dec. 7. Warfarin therapy was reinstituted on Dec. 9. Persistent pain continued and the patient was given an intrathecal dose of methylprednisolone acetate on Dec. 13. A few days after this her pain became less severe.

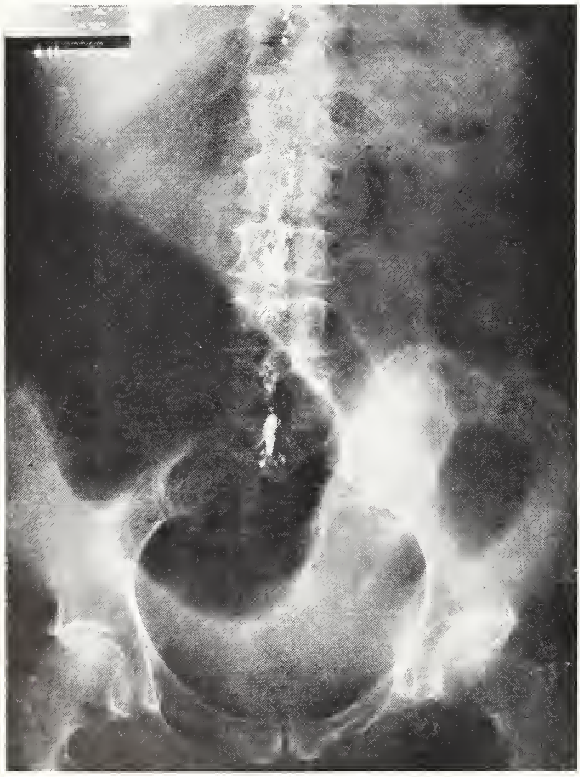

Fig. 1. A-P film of abdomen illustrating massive cecal distention. The greatest transverse diameter of the cecum was 13 cm.

During this period of time, she continued to be severely constipated. On Dec. 19, the patient was given two enemas because of constipation. Following the second enema, she became weak and sweaty on the bed pan and her blood pressure fell to 80/50. She was confused and irrational. Bubbling rales were heard throughout the chest and the heart sounds were distant. An EKG showed minimal changes. The patient was given intravenous aramine to maintain her blood pressure. On examination at this time, she was noted to have a large, air-filled mass in the right lower quadrant of her abdomen. Her hematocrit was 46%. A chest x-ray showed marked atelectasis of the right upper lobe of the lung with a tracheal shift to the right and elevation of the right hemidiaphragm. An obstructive series showed the cecum tremendously dilated with gas. The greatest transverse diameter of the cecum was 13 cm (Fig. 1). The patient was bronchoscoped and except for the tracheal shift the findings were essentially normal. The right upper lobe bronchus was thoroughly aspirated. A cutdown was placed in the left cephalic vein and her central venous pressure was found not to be elevated. Blood chemistries showed a BUN of 30 mg% and normal electrolytes. An amylase was 2,250. Her white count had risen to 36,000 and her hematocrit to 51%. She was, therefore, treated with two liters of sodium chloride solution in the course of the succeeding eight hours, with marked improvement in her blood pressure and a marked decrease in her peripheral vasoconstriction. Her hematocrit fell to 41% and her prothrombin time was 25%. By 9:00 AM on Dec. 20, her abdomen had become more distended and quite rigid and tender in the right lower quadrant. The gas filled cecum was no longer palpable. A chest x-ray showed marked clearing of the atelectasis of her right upper lobe.

Because of the probability of an abdominal catastrophe as the etiology of her condition, she was taken to the operating room and an exploratory laparotomy was performed. The cecum was in its normal retroperitoneal position in the right lower quadrant. It was noted to be markedly dilated and foul smelling. Black necrotic areas were present on its surface. Approximately 500 cc of foul purulent fluid were found in the peritoneal cavity. There was no sign of frank perforation of the cecum. A distal obstructing lesion was not present. A partial right colectomy was performed with an end-to-side anastomosis of the terminal ileum to the right transverse colon.

Postoperatively, the patient did extremely well. She continued to have some pain in her left leg, but by Jan. 4, 1966, her Foley catheter had been removed and she was voiding well. Function of the intestines returned normally. Because of the pain in her leg, she received another dose of intrathecal steroids on Jan. 6. This eventually produced some improvement in her leg pain. The patient was discharged on Jan. 20 with her wound well healed. A sigmoidoscopy and a barium enema prior to discharge showed no lesion of the colon.

Discussion

Examination of the cecum in this case showed black necrotic areas on the lateral aspect of the cecal wall. No perforation was present. On the mucosal surface, multiple areas of black necrosis were present, the largest measuring 20 x 6 cm. Microscopic examination confirmed the presence of hemorrhagic necrosis (Fig. 2). The mesenteric vessels were not thrombosed. This picture closely resembles the changes described by Van Beuren[7] which are related to obstruction of the vascular supply in the bowel wall itself.

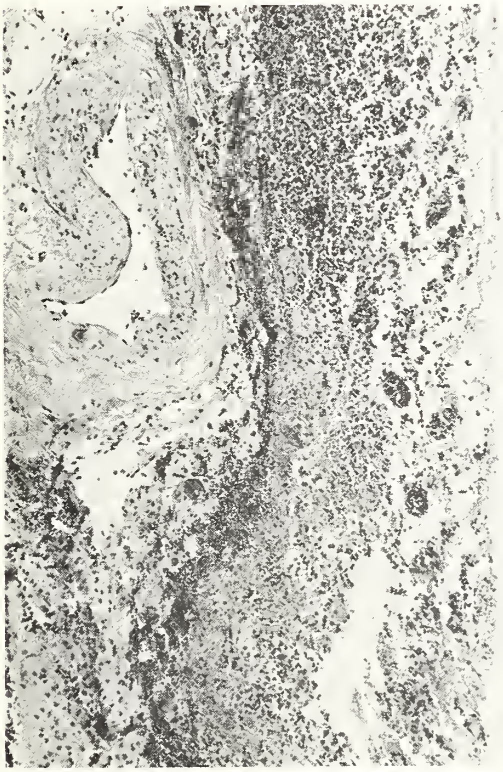

Fig. 2. Photomicrograph showing hemorrhagic necrosis of cecal wall. Note patent submucosal vein.

The cause of the cecal distention in this instance is not clear. It probably was related to chronic constipation, the continued use of enemas and the two enemas given preceding the acute illness. The hypotension undoubtedly was related to fluid loss into the bowel wall and surrounding tissues. It should be noted that the diameter of the patient's cecum, measured by supine film, was 13 cm, well above the upper limit of normal as determined by Lowman and Davis.[3] All previous instances of such cecal overdistention have been related to a distal obstruction lesion. No such lesion was present in this case.

The mortality of cecal perforation, as reported in the literature, is about 70%. The operative treatment generally advised is exteriorization of the cecum. In this instance, because of the absence of a frank perforation, primary resection and anastomosis were performed and were successful.

Summary

An instance of necrosis of the cecum due to overdistention is presented. This was unusual, since a distal obstructing lesion was not present in this case. The measurement of cecal size can be an important indication of the need for early operative intervention.

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It is important that every member of MSMA give serious consideration to attending the 110th Annual Session on March 28-31 at the Muehlebach Hotel in Kansas City. Make your reservations today and be there to participate in the affairs of organized medicine, benefit from the scientific presentations and exhibits and enjoy the camaraderie of old friends and colleagues.

J. M. MARTT, M.D., CHARLES E. LEA, M.D.,
HAROLD D. ADAMS, M.D., *and* ROBERT W. CLOTHIER, M.D.,
Columbia

Atrioventricular Heart Block in a General Hospital Population

Continued advances in the therapy of complete atrioventricular (A-V) heart block with electronic pacemakers have led physicians to an increased awareness of this condition and to a better recognition of its varied clinical manifestations. This may serve to explain what would seem to be an actual increase in the number of patients coming to the hospital with this condition within recent years.

The purpose of this study was to determine the incidence of the various forms of atrioventricular block as encountered in a general hospital population and to endeavor to determine the etiology of the more serious types.

Materials and Methods

The coded diagnoses of 49,794 electrocardiograms from 24,163 patients were reviewed by digital computer in order to retrieve the medical records of all persons in whom a diagnosis had been made of atrioventricular block of any type. The electrocardiograms represented the total hospital experience from October, 1956 to October, 1964 and were obtained on patients either entering the hospital or in the outpatient departments. All of the electrocardiograms selected were carefully reviewed in order to confirm the original diagnosis. For adults, a P-R interval of 0.21 seconds or more regardless of heart rate was considered as prolonged and for children the criteria of Alimurung and Massell[1] were employed. Letters of inquiry regarding their current state of health were mailed to all patients with an electrocardiogram diagnosis of complete A-V block, providing that recent information was not obtainable from the medical record.

Results of Study

Incidence

The incidence of the various forms of atrioventricular block encountered are shown in Table 1. A prolonged P-R interval was observed in 1,522 cases (6.3%), a frequency which exceeds those of other studies in which this type of A-V block has varied from 0.6% to 3.0%.[2, 3] This discrepancy is probably due to the present study being confined to a general hospital population in whom the great majority of patients are rather ill. This is not to imply that a prolonged P-R interval is always evidence of organic heart disease since it is generally agreed that quite healthy persons may demonstrate this electrocardiographic finding.[4]

TABLE 1

Incidence and Types of Atrioventricular Block in 24,163 Hospital Patients

	No.	*%*
Prolonged P-R interval (first degree A-V block)	1522	6.3
Partial A-V block (second degree A-V block)	190	0.8
Atrial tachycardia with A-V block (P.A.T. with block)	34	0.1
Complete A-V block	73	0.3
Total	1819	7.5

Second degree A-V block (or partial heart block) was found in 224 patients (0.9%), all of whom had evidence of organic heart disease or who were receiving some drug. Of this group, 34 patients had the added complication of an atrial tachycardia (PAT with block).[5] The medical records of these 34 subjects were studied to determine the relationship of cardiac medications to the disorder in view of its frequent association with digitalis toxicity. Two records were incomplete and were excluded. Of the remaining 32, however, all but one patient were receiving digitalis. Diuretic medications were being administered concomitantly in 14 patients (42%), a therapeutic combination which has been observed to greatly potentiate the toxic effects of digitalis upon the heart.[5, 6]

Complete A-V block was diagnosed in 73 patients, an overall incidence of 0.3%. The average age at the time of diagnosis (excluding the cases due to surgical trauma and congenital origin) was 65 years. Two-thirds of the patients (47 or 64%) were males, revealing a sexual predilection similar to other reports.[7, 8]

Etiology of Complete A-V Block

Follow-up information as to survival was obtained in all but five patients. By careful review of the medical records, operative findings and postmortem examinations, an attempt was made to determine the etiology of the conduction disturbances. These findings are shown in Table 2. Noteworthy is the incidence of "acute" forms of complete A-V block evidenced by the patients with acute myocardial infarction (seven cases), digitalis toxicity (19 cases) and surgically induced block (two cases). Heart block caused by these forms of acute insult to the conduction system are usually transient, albeit nevertheless serious, and rarely require consideration of an implantable battery pacemaker, although a temporary means of pacemaking is often indicated and may prove lifesaving. It should be emphasized that digitalis toxicity was found to be the single most common cause of complete A-V block. It was observed in 19 cases (26%) of the total group. Twelve of the 19 were receiving some form of diuretic therapy in addition to digitalis at the time of discovery of the disorder. Although the duration of the heart block was brief following the diagnosis, it was quite apparent that most of these patients had severe organic heart disease as illustrated by the follow-up survival figures which revealed that seven of 17 patients had died within an interval of 20.5 months.

TABLE 2

Etiology of Complete Atrioventricular Block in 73 Patients

Etiology	*No.*	*%*	*No. Follow Up*	*Survival** no.	%
Coronary atherosclerosis	16	22	14	6	43
Acute myocardial infarction	7	9.5	6	1	17
Digitalis toxicity	19	26	17	10	59
Myocarditis	9	12	9	2	22
Aortic stenosis	4	5.5	4	2	50
Congenital	4	5.5	4	4	100
Surgical trauma	2	2.5	2	2	100
Unknown	12	17	12	5	42
Total	73	100	68	32	47

* Follow-up period from 2 months to 7.5 years—mean—27.7 months.

A report on a study to determine the incidence of the various forms of atrioventricular block as encountered in a general hospital population and an endeavor to determine the etiology of the more serious types. One of the findings suggests that myocarditis may be responsible for a significant number of cases of complete A-V block in patients in whom a clinical diagnosis is obscure. The authors are from the University of Missouri Medical Center. Doctors Lea, Adams and Clothier performed this study when they were fourth year medical students.

Coronary atherosclerosis (without acute myocardial infarction) was judged to be the cause of block in 16 cases (22%). However, the mere presence of coronary atherosclerosis at postmortem examination in patients dying with complete A-V block does not necessarily imply a causal relationship and it would seem very likely that the implication of this disease as the etiology in many cases may be related to the difficulty in ascertaining the precise cause of focal scarring in and around the conductive bundle. The relationship of the two may often be fortuitous.[8]

Of the 36 patients who died either at home or in the hospital, postmortem examination was performed in 16 (44%). The hearts of six of these patients revealed changes of a chronic myocarditis with varying degrees of fibrotic infiltration and degeneration of myocardial fibers. In none of them was the precise etiology of the prior inflammatory insult demonstrated. The proximity of the A-V node to the aortic valves makes it quite vulnerable to inflammatory diseases which affect either the aorta or the valves. Such localized types of myocarditis with interruption of A-V conduction may be observed in such diverse entities as rheumatoid spondylitis,[9] Reiter's syndrome[10] and rheumatic and calcareous aortic valve stenosis.[7, 11] In most reports dealing with the etiology of complete A-V block, a significant percentage of cases are of unknown etiology.[11] Twelve patients in the present study were classified as of unknown etiology. We believe that a large portion of these patients may have sustained a myocarditis in preceding months or years, the acute phase of which may have been either asymptomatic or was so mild as to have gone undetected by a physician. This opinion is derived in large measure from the results of autopsy examination cited above in which over one-third of patients so examined showed changes in the myocardium compatible with the healed phase of myocarditis.

Prognosis and Survival

The follow-up period ranged from two months to 7.5 years with a mean of 27.7 months. Table 2 shows the survival rates as they relate to the various causes of heart block. It is to be noted that the highest mortality occurred in patients whose A-V block was secondary to acute myocardial infarction and myocarditis. Over three-fourths of these subjects were dead with a mean survival period of 10.6 months and 3.6 months, respectively, from the time of initial hospital diagnosis. The use of intracardiac pacemaker therapy was not applicable to many of the patients in this study as it became available only during the last two years of the observation period. Its later application to patients with complete A-V block with Adams-Stokes attacks has often proved to be life saving.

Of the total of 68 patients available to follow-up 25 (32%) had sustained at least one Adams-Stokes attack with loss of consciousness and some had experienced numerous episodes. The survival rate in patients with this complication, as compared to the 44 subjects with no history for it, is shown in Table 3. Two-thirds of patients with such episodes were dead within an average of 18 months. Of the eight who survived at the time of follow-up, all had received or were receiving some type of artificial pacemaker therapy. Although occasional patients with complete A-V block may experience a single Adams-Stokes attack and, thereafter, appear to do well without recurrences for many years, this is distinctly unusual.[12]

TABLE 3

Per Cent Survival With Adams-Stokes Episodes

Adams-Stokes Attacks	*Number of Patients*	*Survival** no.	%
Present	25	8	32
Absent	43	24	56
	—	—	
Total	68	32	

* Mean survival time for all patients—18.3 months.

Summary

The incidence of atrioventricular block was determined in 49,794 electrocardiograms obtained from 24,163 patients undergoing hospital evaluation and therapy. Digitalis toxicity was responsible for the majority of instances of partial (or second degree) A-V block and accounted for 26% of all instances of complete A-V block.

Patients with complete atrioventricular heart block who had experienced Adams-Stokes attacks had an especially bad prognosis in that three-fourths were dead within 18 months following the initial hospital diagnosis. A relatively large percentage of patients with complete A-V block (12 of 73 subjects—17%) had no demonstrable etiology for the condition as judged by the usual clinical diagnostic measures. It is believed that a large proportion of such patients have sustained a focal or diffuse myocarditis with resultant interference with A-V conduction. This suspicion is based on the findings at postmortem examination in 16 patients dying with complete A-V block in whom six had non-specific fibrotic changes in the myocardium presumed to be the sequela of a previously acquired myocarditis of obscure etiology.

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Constitutional Precocious Puberty

Case Report

CONSTITUTIONAL PRECOCIOUS PUBERTY is the diagnosis assigned to children in whom secondary sex characteristics appear before the expected age. In this paper which will be limited to females, the age of eight has been designated as the youngest at which the appearance of pubertal changes might be accepted as the lowest limit of normal.

In girls, normal pubertal changes follow a rather definite order, namely breast development (thelarche), pubic hair growth (pubarche), axillary hair growth and then, menstruation (menarche). Early menstruation frequently (and normally) is irregular due to the fact that ovulation is not established as a regular cyclic phenomenon in many young girls for the first year or more of menstruation.

Average ages at which pubertal changes normally occur in girls are shown in Table 1.

TABLE 1

AVERAGE AGES OF PUBERTAL EVENTS IN GIRLS

10-11	Thelarche and beginning pubarche
11-12	Cornification of vagina
	Further breast maturation
12-13	Axillary hair appears
	Areolar pigmentation
12-14	Menarche
	Gradually cyclic ovulation

Pubertal changes appear earlier in warmer climes, and average ages for these changes are lower in the United States now than several decades ago, presumably due to better nutrition.

The incidence of precocious sexual maturation in girls is not great. The most important point to be made in regard to such precocity is that 85% or more of such cases are not due to tumors, but are simply the development of normal puberty at an abnormal age. The implications from a treatment standpoint are obvious.

ETIOLOGY

Various etiologic classifications of precocious puberty have been advanced, such as "constitutional" vs. "organic" and "puberty" vs. "pseudopuberty." In each classification, the basic division is between functional early puberty and that due to an anatomic lesion. While the subject under discussion is "constitutional precocious puberty," the etiological classification in Table 2 will be offered for the sake of differential diagnosis. (The etiologic factors are listed in approximate order of incidence.)

TABLE 2

ETIOLOGIC CLASSIFICATION OF PRECOCIOUS PUBERTY

I. Constitutional (or idiopathic) 85% to 90% of cases: True puberty at an early age.
II. Organic (Pseudopuberty)

Isosexual	*Heterosexual*
Granulosa cell tumor	Adrenogenital syndrome
Luteoma	Adrenal tumor
Thecoma	Iatrogenic causes
Follicle cysts of ovary	
CNS lesion	
Drug-induced causes	
Hypothyroidism	
Chorioepithelioma	
Teratoma	
Dysgerminoma	
Feminizing Sertoli tumor	
Adrenal feminizing tumor	

Two sizeable series of these cases,[1, 2] from which the relative incidence of the organic lesions can be determined, have been reported.

I. *Constitutional Precocious Puberty*

In this condition, there is a premature activation of the hypothalamo-hypophysial-ovarian axis and all of the features of normal puberty appear in approximately the proper order. As a result, one finds varying degrees of breast development, cornification of the vagina and sexual hair development, depending upon at which stage of the process the youngster is first seen. The child also will have an advanced bone age, enlarged uterus and she may ovulate. If ovulation can be demonstrated, it virtually establishes the diagnosis since it is most rarely seen in any of the organic types.

The FSH and urinary estrogen excretions are expected to be at adult or pubertal levels, but this is extremely variable.

CASE REPORT

This little girl was first seen by her family doctor at the age of 2 years and 11 months. Her parents had noted a recent growth spurt (her weight having increased six pounds in four months) and she had an occasional mucous vaginal discharge. Her mother believed that she was "growing breasts." There was no history of drug ingestion of any kind.

Past history revealed frequent sore throats, and two convulsions following a high fever (104.6 F) about one year earlier. In a system review, a weed rash and a "rash" following penicillin injection were noted.

Results of a physical examination were: height, 40 inches; weight, 40 pounds; temperature, 99.0 F; pulse, 102; blood pressure, 82/54.

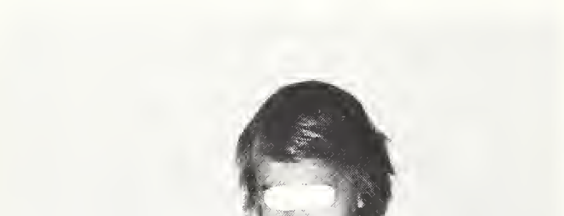

Fig. 1 A 2-year, 11-month-old girl displaying breast buds and labial hypertrophy.

An EENT examination, including fundoscopic, was normal, as were heart and lungs. Thelarche definitely had begun, buds of breast tissue being palpated bilaterally.

The abdominal examination was negative and the recto-abdominal examination revealed no adnexal masses. The uterus was larger than infantile normal. The labia were slightly hypertrophic but there was no vulva, pubic or axillary hair present (Fig. 1).

She was admitted to the hospital and the following studies were made:

Vaginal smear for cytohormonal evaluation showed 100% cornified cells (Fig. 2). FSH was detectable but under 6 mouse units per 24-hour urine sample. Total urinary estrogens were 3 μg per 24 hours, and urinary 17 ketosteroids were 0.8 mg per 24 hours. PBI was 6.5 μg per 100 ml.

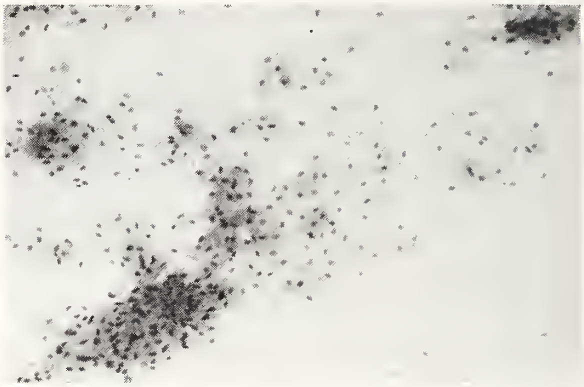

Fig. 2 Demonstrates a very highly cornified cell population in the vaginal smear.

Pregnancy test (for trophoblastic tissue) was negative.

X-rays of sella and skull were normal as was an intravenous pyelogram. Bone age was slightly advanced (age 4 years).

Gynogram (after pneumoperitoneum with 600 ml. of nitrous oxide) revealed an enlarged left ovary (4 cm.).

On finding the enlarged ovary, we felt we had found the answer. However, as a further diagnostic test, 100 mg. of medroxyprogesterone acetate (Depo-Provera) were given in an attempt to suppress pituitary gonadotrophin. We reasoned that this drug would not suppress the incretory function of a tumor.

The effects of the drug (Figs. 3 and 4) were followed by repeating the vaginal smear. The amount of the drug given and the effects on the smear are listed below. It is noted that the

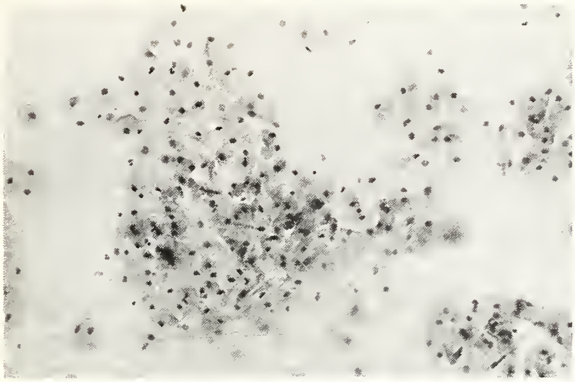

Fig. 3 After pituitary suppression with Depo-Provera, demonstrates a marked shift to the left in the maturation index.

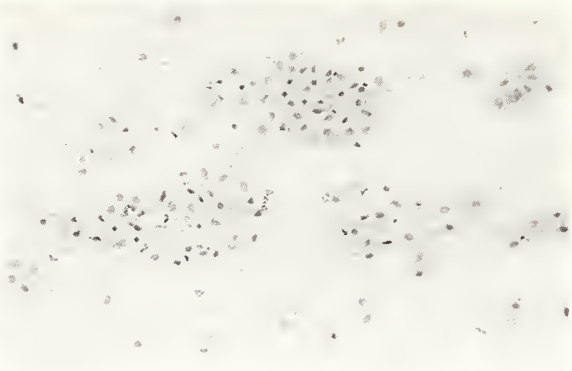

Fig. 4 After further therapy, a recession to the predominantly parabasal picture, which is normal, is shown.

maturation index changed from 100% cornified cells to 100% parabasal:

Date	*MI*	*Drug*
11/18/66	0/ 0/100	
11/22/66		100 mg IM
11/29/66	0/95/5	
12/ 3/66	1/94/5	
12/10/66	0/97/3	100 mg IM
12/27/66	1/98/1	100 mg IM
1/ 6/67	95/ 5/0	100 mg IM
1/19/67	88/12/0	150 mg IM
1/25/67	100/ 0/0	

Over this two month period the breast buds softened and flattened.

The child had two episodes of vaginal bleeding on Jan. 4, 1967 and Jan. 14 to Jan. 16. After the injection on Jan. 6, the mother reported an itching rash. After the injection on Jan. 19, the child developed giant urticaria and massive edema of lips and eyelids. A pediatric allergist suggested that this may have been due to the drug's paraben base vehicle and suggested that it be discontinued. For this reason, oral Provera, 10 mg./day was begun. The vaginal smear has remained 100% parabasal on this regimen and breast development has regressed.

On June 8, a repeat gynogram was done and the previously enlarged left ovary is now normal in size. On July 19, a repeat wrist x-ray revealed a bone age of 4 years and 3 months. The child has gained 1¼ pounds in the past eight months.

II. *Pseudopuberty Due to Organic Lesions*

A. Isosexual

Granulosa cell tumor of the ovary, while still exceedingly rare, is the most common organic lesion causing precocious puberty in girls. A review of the world literature[2] in 1960 records 62 proved cases and 30 probable ones. Another author[3] added two more in 1965, plus one of thecoma.

Clinically, these tumors frequently are large and palpable abdominally when first seen, but not always. When small, gynecography may assist in diagnosis.[3] They also are logically expected to demonstrate high urinary estrogen levels and a low or absent FSH. Unfortunately, these findings are not constant.[3, 4]

Other typical features of granulosa cell tumor are vaginal bleeding without preceding thelarche or pubarche and no advancement in bone age.

Treatment of the granulosa cell tumor, of course, is removal, with conservation of the contralateral ovary unless there is definite evidence of tumor on the opposite side.

The malignancy rate of these tumors is about 25% in all age groups,[5] but perhaps less than this in children. In a report of 31 cases in 1946, another author[6] observed that only two children died with metastases.

Luteoma has been reported several times as a cause of precocious puberty.[7, 8] This tumor may represent a luteinized granulosa cell tumor or thecoma, and it may or may not be palpable. The treatment is removal.

Thecoma is a rare cause of precocious pseudopuberty.[3, 9] The treatment again is removal.

(Follicle cysts of the ovary are inserted here parenthetically since they are found more commonly in cases of constitutional precocity and the question arises as to whether they are cause or effect or whether their presence tends to perpetuate the abnormal gonadotrophic activity of the pituitary. The reason these questions arise is that, in several cases, removal of such follicle cysts has been rewarded by reversal of the sexual precocity.[10, 11])

Clinically, statistics suggest that if a small ovarian swelling is present, it is probably a follicle cyst, whereas a large mass is more apt to be an incretory tumor. This fact prompted the conservative approach to the known left ovarian enlargement in our case.

Central nervous system lesions causing sexual precocity include tumors, such as craniopharyngioma, hamartoma, pinealoma and neurofibroma or non-neoplastic lesions, such as meningo-encephalitis, hydrocephalus, congenital hypothalamic defects, degenerative encephalopathies and tuberous scleroses. Precocious sexual changes also are found in polyostotic fibrous dysplasia.[12]

X-ray of the skull and sella, electroencephalography and pneumoencephalography[13] are useful in identifying these lesions. Treatment of the tumors may be surgical, radiologic or cryotherapeutic as appropriate.

Drug-induced cases of precocious puberty have been reported after the prolonged use of estrogen creams for vaginitis and after the ingestion of "tonics" and vitamins compounded with or contaminated with sex steroids.[14] The widespread use of estrogen-progestogen pills for contraception should alert us to the possibility of their being an etiologic agent.

Hypothyroidism is associated occasionally with certain pubertal changes,[15, 16, 17] namely thelarche and uterine bleeding. Galactorrhea also may be present, but no pubic hair appears and the bone age is retarded rather than advanced. An enlarged sella may be seen, due to pituitary hyperplasia. The theory is that the excessive production of TSH "overlaps" into the production of gonadotrophic moieties. Treatment with thyroid hormone reverses the process.

Chorionepithelioma causes precocity[18] and is characterized by a high titre of chorionic gonadotrophin which gives positive chemical and biologic pregnancy tests. These tumors are highly malignant.

Teratomas and teratomatous elements in other tumors, such as dysgerminoma (the latter usually biologically inactive), have been reported as causing precocity.

Dysgerminoma in which no teratoma is found has been reported[19] associated with precocity; the explanation for this is obscure.

Feminizing Sertoli-Cell tumors of the ovary causing precocity are reported.[20, 21] One is reminded that the Sertoli Cell adenoma associated with male pseudohermaphroditism also produces estrogenic substances.

Adrenal carcinoma[1] and hepatoma[22] also have been associated with precocity.

B. Heterosexual

Adrenogenital syndrome due to a congenital or acquired defect in the synthesis of cortisol results in an excessive production of androgens by the adrenal cortex and virilizing changes due to these androgens. In the prepubertal girl, these changes may be clitoral hypertrophy and hirsuitism. This is the most common cause of "heterosexual precocity," a misnomer at best, since the phenomena are actually virilization. Treatment is with cortisone or one of its synthetic analogs, which suppresses the excessive ACTH secretion and depresses the excess production of adrenal androgen.

Adrenal tumor in girls producing androgens is very rare but has been reported. If intravenous pyelography shows little or no displacement, pneumonephrography may assist in diagnosis.

Drug-induced virilization in little girls has been produced with anabolic steroids, given to induce growth or weight gain.

DIAGNOSIS

Diagnostic features of the various etiologic factors already have been suggested. However, a few words about diagnostic approach are in order. Procedures and tests of value in differential diagnosis are listed in Table 3.

TABLE 3

DIAGNOSTIC PROCEDURES

1. **Detailed history**
2. **Physical examination**
3. **Vaginal smear**
4. **Hormone tests:**
   FSH, Estrogens, PBI,
   Pregnancy test, 17 KS
5. **X-rays:**
   Skull—sella—pneumoencephalogram
   Wrists (for bone age)
   IVP—Pneumonephrogram
   Gynogram
6. **Other:**
   EEG
   Ovulation tests
   Provera suppression

History taking should determine the time and order of onset of each symptom and any associated illnesses. Symptoms of central nervous system disorder or tumor must be sought and drug ingestion must be carefully excluded.

Physical examination should include fundoscopy and careful appraisal of pubertal changes. The presence of an abdominal mass is probably the most important feature sought; recto-abdominal examination for pelvic mass is important. Sexual hair distribution is noted.

Vaginal smear is simple and important. It determines the amount of estrogen being secreted, and serial smears will show ovulation if present.

FSH determinations may be pubertal or adult in constitutional cases and should be low in ovarian and adrenal tumors. Exceptions, however, are common. It must be borne in mind that even in normally menstruating adult women, at certain times in the cycle the FSH is not always measurable by our usual rat uterine weight method.

Estrogens in the 24-hour urine sample should be very high with incretory tumors and at pubertal levels in the constitutional type. There are many exceptions, but if the very high levels are found, tumor is suspect.

Protein bound iodine test will be very low in cases due to hypothyroidism.

Pregnancy tests, chemical or biologic, will be positive in chorioepitheliomas and certain teratomas, with very high titres in the former.

17-ketosteroids in the 24-hour urine will be at adult levels in the constitutional type and will be markedly elevated in adrenogenital syndrome and certain adrenal and adrenal rest tumors.

Skull X-ray will uncover Albright's syndrome or sellar distortion, which may mean tumor. Pneumoencephalography adds a dimension in the diagnosis of tumor.

Wrist X-rays, detailing the number of carpal bones ossified and including the distal radial and ulnar epiphyses, give a sensitive index of bone age.

Intravenous pyelograms are displaced by large adrenal tumors. After the presacral introduction of carbon dioxide and tomographic roentgenograms of the kidney areas (pneumonephrograms), less obvious adrenal enlargements can be appreciated.

Gynograms (X-rays directed under the sacrum in the face down position after the introduction of a pneumoperitoneum)[23] are very valuable in demonstrating smaller, non-palpable ovarian tumors, particularly in obese youngsters and in those difficult to examine recto-abdominally.

Electroencephalographic abnormalities may signal the presence of a tumor, but also are seen in a high percentage of idiopathic precocious puberty patients.[24]

Ovulation tests such as serial vaginal or urinary sediment smears, basal temperature charting or cyclic disappearance of cervical ferning are valuable, if feasible. Endometrial biopsy may be indicated on occasion. If ovulation can be proved, the diagnosis of constitutional precocity is virtually certain.

Provera suppression is not an established procedure, but the reversal of the pubertal changes by Provera certainly must support the diagnosis of constitutional precocity, since to our knowledge no tumor can be suppressed in this manner.

A case report of constitutional precocious puberty in a 3-year-old girl is presented with a review of recent literature on female sexual precocity. The authors report that treatment with medroxyprogesterone acetate, first intramuscularly and now orally, appears to be reversing the symptoms in this patient. Doctor Backer is Associate Professor of Clinical Gynecology and Obstetrics at St. Louis University School of Medicine and Doctor Wacker is Primary Physician at St. Joseph's Hospital in Kirkwood.

TREATMENT

Treatment of the "pseudo-puberties" has been indicated along with the discussion of each type, but we feel a few additional words are in order regarding the treatment of the constitutional type.

One noted authority on this subject[25] states that "all forms of active treatment, including the administration of hormones, are contraindicated."

In view of the facts that pregnancy is possible, however, premature closure of the epiphyses and short stature are the rule, and psychologic damage is likely since these youngsters are so out of step with their contemporaries. Other workers[26-30] feel that active treatment is indicated to stay the production of pituitary gonadotrophins until a more appropriate time.

Historically, hog FSH has been given[26] to elicit the production of antibodies against endogenously produced FSH, but the scarcity of material available and frequency of injections required made this approach impractical.

Experience with medroxyprogesterone acetate given by injection has been favorable in terms of estrogen suppression, although in some instances[29, 31] pituitary gonadotrophin secretion has not been measurably reduced and lineal osseous growth did not appear to be decelerated. Reports on the efficacy of this compound given orally are conflicting,[28, 29] but some have been favorable and the salutory effects in the case reported are very gratifying thus far. It is apparent that secondary sexual characteristics can be suppressed with oral therapy. A question remains as to whether or not such therapy will indeed prevent premature epiphyseal maturation.

SUMMARY

A case of constitutional precocious puberty in a 3-year-old girl is described and recent literature on female sexual precocity is reviewed. Treatment with medroxyprogesterone acetate, first intramuscularly and now orally, appears to be reversing the symptoms in the reported case.

Acknowledgement: The authors wish to express their appreciation to J. Wm. Haynes, M.D., pathologist at St. Joseph's Hospital, and John D. Lauer, M.D., radiologist, for their help in evaluating this patient.

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Thermoluminescent lithium fluoride dosimeters of a new type, superior to other dosimeters for special purposes, have been developed in the Public Health Service's National Center for Radiological Health. The dosimeters may be used to measure background radiation, x-rays from electronic products, gamma-beta radiation and exposure of patients undergoing x-ray examinations. One of the advantages of the dosimeters is that they can be employed to record diagnostic x-ray exposure without interference with diagnostic procedures.

Methods for reading and calibrating the large single lithium fluoride crystal dosimeters were developed by members of the staff of the Radiological Health Center's Electronic Products Radiation Laboratory. The crystals have been purchased from a chemical manufacturer.

The dosimeters were initially employed for quality control in the Public Health Service diagnostic x-ray exposure study for measurements in the range of 5 to 5,000 milliroentgens, but since have been improved so that they can make low-level recordings with an accuracy of plus or minus 0.25 milliroentgens.

During the first seven months of 1967, 7,500 readings were made with 675 crystals. X-ray calibration of individual crystals was found to be reproducible within plus or minus 5%.

YEU-TSU LEE, M.D., ***Columbia***

Experimental Studies of Metastases

A Review—Part III

The last of three installments of an extensive review of experimental studies of metastasized cancer cells. This segment continues discussion of the reaction of tumor cells and endothelium in the establishment of metastasis. Heparin was the first anticoagulant agent considered.

Part I of this paper reviewed biochemical changes of the nucleus and cytoplasm and the electro-chemical and structural changes of cancer cell membrane. Part II covered the in-transient stage of circulating cells and introduced the subjects of tumor cell retention in organs and reaction of tumor cells and endothelium in the establishment of metastasis. References and tables have been numbered consecutively through the three installments as an aid to those who may wish to retain the entire work as a unit.

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REACTION OF TUMOR CELLS AND ENDOTHELIUM IN THE ESTABLISHMENT OF METASTASIS

2. Other anticoagulant agents

IN 1949 STRAUSS & SAPHIR[105] found that tumor cells in Dicumarol-treated rabbits remained free in the circulation longer and there was more dispersal of tumor cells into the smallest pulmonary vessels. Pretreatment with a single dose of Coumadin and Dicumarol, however, resulted in decreased pulmonary metastases in later studies.[1, 95, 106] Another report on the effect of prolonged Coumadin treatment also showed a very significant decrease of metastasis.[107]

Although protamine neutralizes acid mucopolysaccharides (heparin) and various blood factors, it has anticoagulant properties in certain circumstances.[91] Muggleton *et al*[108] found that heparin and protamine had synergistic inhibitory effect on solid sarcoma, but antagonistic effect on ascites tumors in mice. Wood[1] found that protamine increased experimental metastasis. O'Meara and O'Halloran[91] found that the "cancer coagulative factor" was inhibited *in vitro* by protamine. After its administration in nine patients with advanced breast cancer, there was improvement in six. Hughes[109] used protamine in 20 patients with various malignancy and obtained doubtful advantages.

Retrospective studies of incidence of cancer in patients on long term oral anticoagulant also showed inconclusive results. Bjerkelund[110] reported three deaths from malignant disease in the control group and one among the anticoagulant treated group. Suzman[111] found that six treated patients, but 31 untreated patients, died of cancer. Manchester[112] reported eight deaths from malignant disease in treated patients and only two among the controls. Michaels[113] reported that 19 out of 540 patients observed for a total of 1,569 patient-year developed cancer, whereas the expected number was 15. However, only one death from cancer occurred, as opposed to eight predicted.

3. Dextran

Dextran, a mixture of glucose polymers of various size and geometry, was introduced into medicine in the early 1950's by the Swedish scientists. The low molecular weight dextran (LMW dextran mw 45,000) was found to have the ability to improve microcirculation, decrease erythrocytes aggregation and reverse slugging phenomenon.[114-117] Both high and low molecular weight dextrans are effective antithrombogenic agents. They made the red blood cells more electronegative *in vitro*[118] and caused reduction of fibrinogen following infusion *in vivo*.[117] Cohn *et al*[119, 120] found that LMW dextran decreased the incidence of intraperitoneal implantation of B-P tumor and suture line growth of colonic tumor.

Unlike heparin, which decreases the viscosity of plasma and blood,[121] even 6% LMW dextran has a viscosity which is higher than that of plasma.[122] By dissolving LMW dextran directly in plasma (final concentration 2%), there was no effect on the viscosity of heparinized blood.[123] All studies on high molecular weight dextran do show a marked increase in erythrocyte aggregation and blood viscosity.[124, 125] High viscosity dextran was used to slow the growth of primary tumors[126] and increase the take and metastases of injected cancer cells[127] by changes produced in the microcirculation.

The multiple properties of dextran may explain the contradictory results of its effect on metastases in experimental studies (Table 3). Fisher and Fisher[131] found an increase in the incidence and size of hepatic metastasis after dextran administration. Tumor growth was quantitatively correlated with an increase of circulating blood volume. Whether or not dextran has a direct tumor growth-promoting effect is not clear, but Wood *et al*[132] believed the test system they used is responsible for the result, since dextran was found to increase the capillary permeability only in the rats.

There are reports of studies of blood and plasma viscosity in various diseases such as venous thrombosis and coronary occlusions,[133] rheumatoid arthritis, surgical infections,[134] myeloma and macroglobulinemia syndromes.[135] However, a search of the literature revealed only isolated cases of blood viscosity study in patients with malignancy.[136, 137]

4. Fibrinolysin

The group of Agostino and Clifton has done extensive studies to demonstrate the theory that tumor cell clumping and the formation of thrombi, both of which involved fibrin formation, is important in the formation of metastasis. By administration of human fibrinolysin, there was a decrease in the number of circulating cancer cells and decrease in the transplantability of the cells.[95, 138] The successful transplantation of B-P carcinoma and the lethal thromboplastic effect of V2 carcinoma in rabbits were counteracted by human fibrinolysin.[139] Pulmonary metastases of Walker carcinosarcoma were markedly reduced.[140] Local implantation of carcinosarcoma into the lung was effected by fibrinolysin only[141] (not by heparin).

Fibrinolysin and heparin also potentiated the effect of nitrogen mustard[142, 143] and irradiation[64, 144] in decreasing the formation of metastasis. By given anti-fibrinolytic agents[145] (E-amino-capric acid and Trasylol) and induced hypercoagulable state[95, 146] of hyperlipemia, metastases were increased.

Fisher and Fisher[94] found that administration of fibrinolysin prior to tumor cell inoculation inhibited the formation of hepatic metastasis; but fibrinolysin given two, four or eight hours after injection of tumor was ineffectual, while heparin administered 24 hours after injection of tumor cells could still decrease the incidence of metastasis.

5. Trauma and steroid

Trauma from mechanical, chemical or physiological causes have been shown to be responsible for an increased metastasis. Table 4 lists the experimental studies carried out. The mechanism by which trauma increases local metastases is not known, but two possibilities should be considered: (1) The microcirculatory response in injured tissue is reflected by decreased flow rate, initiation of aggregation of platelets, chylomicrons and red cells and increased permeability of the capillary walls.[152-154] This would favor retention of the cancer cells and passage through the endothelium into the tissues; (2) There is an increased level of tissue released thromboplastin, fibrinogen, fibrinolysin inhibitors,[155] decreased level of antithrombin activity[156, 157] and increased blood hemoconcentration and viscosity.[124, 152, 158] These would increase the tendency of fibrin formation, fixation and growth of the tumor cells.

There is definite experimental evidence of increased localization of circulating cancer cells in traumatized tissue. However, heparinization alone did not effect this phenomenon.[103] Even the use of fibrinolysin only decreased the metastasis slightly in a traumatized leg.[150] LMW dextran also had no effect on preventing metastases to the surgical incisions.[128] These results only underline the multiplicity of factors that are involved in trauma.

Since hepatic trauma also increased the incidence of metastasis in adrenalectomized animals, the importance of adrenal cortical stress response was minimized.[159] Fisher and Fisher found the incidence of hepatic metastasis was similar in rats receiving cortisone and their pair-fed controls. Schatten and Kramer[160] reported that cortisone administration had no effect on pulmonary metastasis of melanoma in mice. However, Zeidman[161] found that cortisonized rabbits developed more pulmonary metastases after intravenous injection of B-P tumor. He believed that cortisone effected the lodgement of the tumor emboli either by action on the tumor cells or the host organs.[74] Experimental evidences also showed that the capacity of a steroid to increase metastasis is correlated with its glucocorticoid activity.[162]

6. Surgical procedures

The observed phenomenon that multiple dis-

TABLE 3

EXPERIMENTAL STUDIES OF ADMINISTRATION OF DEXTRAN AND THE DEVELOPMENT OF METASTASES

		Tumor Tested		*Dextran Given*		*Site of Metastases*	
Reference	*Animal Type*	ROUTE	TYPE	M.W.	TOTAL DOSE		*Results*
Alexander[128] (1964)	Rabbit	IA	Carcinoma VX2	4×10^4	1.43% bw prior, 0.7% bw/d for 2 days	abdominal incisions	1. Dextran may increase the metastases slightly.
Griffen[129] (1964)	Mice	IV	Tumor	4×10^4	0.15 ml/mouse prior tumor inoculation	Lung	1. Significant decrease in metastases (46% vs. control 92%). 2. But metastases developed in treated mice were more and larger.
Schatten[130] (1965)	Rabbit (New Zealand)	IV	Carcinoma V2	7.5×10^4	2% bw, prior	Lung and survival	1. Significant decrease in metastases and increase in survival.
Fisher[131] (1966)	Rats (Sprague-Dawley)	IPV	Carcinoma (Walker)	4×10^4 7.5×10^4 1.5×10^5	Amount replaced 60% blood volume removed prior	Liver	1. Metastases increased by all types of dextran. 2. Tumor growth correlated with increase in circulating vlood volume. 3. Specific visosity changes had no correlation with metastases.
Wood[132] (1967)	Rabbits (Lop)	IV	Carcinoma	10^3 4×10^4 7×10^4	1.5-7.25% bw, prior	Lung	1. Frequency of metastases was not altered by any dextran.

Note:
LA intra-arterially.
IV intravenously.
IPV intravenously via portal vein.
bw body weight in kilograms.
M.W. molecular weight of dextran used.

TABLE 4

Experimental Studies on the Effects of Trauma and the Development of Metastases

Reference	*Animal Type*	*Tumor Cells Injected* ROUTE	TYPE	*Method of Trauma*	*Method of Testing (Site of Metastases)*	*Results*
Fisher[147-149] (1959)	Rats (Sprague-Dawley)	IPV	Carcinoma (Walker)	Liver manipulation, partial hepatectomy, administration of $CHCl_3$ & CCl_4, hepatic vascular occlusion, arterialization of portal vein.	Liver	1. Increased incidence & size of metastases were observed in all cases & related to damage of hepatic parenchyma.
Alexander[128] (1964)	Rabbits (Domestic)	IA	Carcinoma (VX-2)	NH_2 perfusion & vascular occlusion (Spleen) Abdominal incision, viscera manipulation	Spleen & incision	1. Trauma increased splenic metastases. (67% vs. 8% control). 2. Up to 20 times more metastases in the incision than the rest of the abdominal wall. 3. Intra-abdominal manipulation increased intestinal metastases. (67% vs. 28% of control).
Agostino[150] (1965)	Rats	IA	Carcinosarcoma (Walker 256)	Turpentine IM, thigh muscle	Leg & lung	1. Traumatized leg had more metastases (64% vs. control of 10%). 2. Pulmonary metastases same in all (5-8%).
Agostino[151] (1965)	Rats (Wistar)	IV	Carcinosarcoma (Walker 256)	Glass implantation $C\ CL_4$ feeding	All organs	1. Glass seeding caused metastases in liver, kidney, & mesentery. (NOT spleen) 2. $C\ Cl_4$ increased liver metastases, by damaging hepatic tissue.
Fisher[103] (1967)	Rats (Sprague-Dawley)	IV IA	Cr-51 Labelled Carcinoma (Walker)	Mechanical weight, turpentine IM, surgical incisions.	Scintillation count	1. Traumatized leg had 200-700 times greater radio-activity.

tant metastases often appear and grow rapidly after operation on the primary cancer is very distressing. Many clinical and experimental results suggest that surgical procedures may precipitate dissemination and growth of tumor in some instances, but not in others.

Taylor and Wallace[163] reported an incidence of local recurrence of 7.5% in breast carcinoma not biopsied and 15% in patients having a biopsy. Riggins and Ketcham[164] found that incisional biopsy of sarcoma in mice increased the incidence of pulmonary metastasis. This effect is more pronounced in larger and older tumors. Spratt and Donegan[165] showed that patients with stage-A breast carcinoma treated with radical mastectomy without biopsy did not have a better five-year survival rate than those with biopsy. Also, there was no difference in survival rate, whether the biopsy was incisional or excisional.

Ketcham and others found that incomplete removal of the primary tumor or amputation of the normal extremity had no influence on the incidence of pulmonary metastasis from sarcoma of the thigh.[166–168] Operations in which the abdominal viscera were exteriorized and replaced also had no effect.[160] However, celiotomy was found to increase the pulmonary metastasis in other experiments.[168, 169] Fisher and Fisher[147, 148] found that ether anesthesia, dorsal surgical incisions had no effect on the incidence of hepatic metastasis; celiotomy alone and intraperitoneal injection of air had a small effect, but celiotomy plus liver manipulation or sham and partial hepatectomy produced marked increase in hepatic metastases. They also presented evidence suggesting that tumor cells may reside in a dormant state only to be aroused to grow following an appropriate stimulus (such as surgical trauma).[170]

Experimental studies have shown that there is a good correlation between the duration and the final size of the primary tumor and the number of distant metastasis.[171, 172] The rate of growth of the primary tumor also influences the time at which the cells are released. (Fast growing tumors produce metastasis earlier.)[173] Schatten[167] reported that pulmonary metastasis was enhanced after removal of the primary carcinoma because the primary tumor could exert inhibitory effect on the development and growth of its distant metastasis. However, later experiments with multiple tumor-host systems have refuted this finding.[174, 175] The conclusion was that removal of the primary tumor (thigh sarcoma) not only decreased the size and incidence of pulmonary metastasis, but also significantly prolonged the survival times of the hosts.[176]

Summary

The experimental studies of factors and mechanisms involved in the establishment of distant metastases have been reveiwed. Metastasized cancer cells appear to have many genetic, enzymatic, electro-chemical and structual characteristics that are different from those of the primary cancer cells. Although the great majority of the cancer cells released in the circulation are destroyed, the few cells that do remain viable not only can pass through many capillary systems unarrested, but also can cross the endothelium, traverse the interstitial space, enter the lymphatics and reappear in the circulation. Lymphatics and vascular systems, thus, are part of a continuous circuit.

Observations of initiation of metastases showed that tumor emboli are entrapped and attached to endothelium by fibrin thrombi. Various anticoagulants, fibrinolysin and dextrans have been used to alter the clotting and fibrin-formation processes. The results are far from conclusive. Trauma and surgical procedures have definite roles in the localization and stimulation of certain tumor growth. Other studies using chemotherapy, radiation, tumor immunization techniques, etc., have not been included. It is hoped that this review may serve as a background for discussion and stimulate interest in further clinical and experimental research.

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The Council on Medical Service and the Division of Socio-Economic Activities of the American Medical Association will sponsor the Second National Congress on Socio-Economics of Health Care on March 22-23, 1968 at the Palmer House in Chicago. The Congress will bring together authorities from medicine, health care administration, social science, education, community planning and other disciplines to report on new developments and techniques in meeting the increased demand for health services.

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Tumors of the Duodenum and Jejunum

Case Reports

Small bowel tumors are rare. In reviewing their experience with these tumors, the authors discuss symptoms for this condition. They suggest that a high index of suspicion and detailed radiologic investigation are necessary to establish the diagnosis. Doctors Morioka and Starkloff are from the Department of Surgery, St. Louis University School of Medicine.

THE RARITY OF SMALL BOWEL TUMORS in the experience of any one surgeon makes it necessary to emphasize their distinctive features so that they will not be missed. In more than 300,000 admissions to our hospitals during the years 1956-1967, we have encountered only 16 tumors of the duodenum and jejunum. Some of these tumors were missed clinically, although their existence was suspected and ineffectual attempts were made to confirm their presence. We have reviewed our experience in order to improve our recognition of these tumors.

In Table 1, we list the age and sex of the patients, as well as the anatomic location and the histologic pattern of the tumor. Most patients were in the fifth to the seventh decade. There was no striking sex predominance. Of ten tumors which were malignant, four were adenocarcinomas and three were sarcomas; the others were a melanoma, a carcinoid and a villous adenoma. Of the six benign tumors, there were two lipomas, two adenomas and two leiomyomas. Seven tumors were located in the duodenum, nine in the jejunum.

The clinical picture was not characteristic, nor could we differentiate the benign tumors from the malignant ones on the basis of symptoms. Four tumors were found at operation carried out for other conditions; in two instances, unsuspected benign tumors were found after death from an unrelated cause. The signs and symp-

TABLE 1

16 TUMORS OF PROXIMAL SMALL BOWEL
ST. LOUIS UNIVERSITY HOSPITALS (1956-1967)

Sex	*Age*	*Tumor*	*Location*
Male	65	Leiomyosarcoma	Duodenum—first part
Male	48	Adenomatous Polyp	Duodenum—first part
Male	52	Carcinoid	Duodenum—first part
Male	90	Lipoma	Duodenum—first part
Male	47	Adenocarcinoma	Duodenum—first part
Female	64	Lipoma	Duodenum—second part
Female	49	Leiomyoma	Duodenum—second part
Male	70	Adenocarcinoma	Jejunum
Female	52	Adenocarcinoma	Jejunum
Male	48	Adenocarcinoma	Jejunum
Female	30	Reticulum Cell Sarcoma	Jejunum
Female	44	Adenomatous Polyp	Jejunum
Female	71	Villous Adenoma with Carcinoma-in-Situ	Jejunum
Male	68	Undifferentiated malignancy	Jejunum
Male	54	Melanoma	Jejunum
Female	47	Leiomyoma	Jejunum

TABLE 2

TUMORS OF PROXIMAL SMALL BOWEL
ST. LOUIS UNIVERSITY HOSPITALS (1956-1967)
SIGNS AND SYMPTOMS

Abdominal pain		11
Obstruction, intermittent		7
Hemorrhage		7
Chronic	6	
Acute, massive	1	
Weight Loss		5
Palpable Mass		2

toms of these patients are listed in Table 2. Eleven patients had abdominal pain. In the seven patients with obstruction, cramps and vomiting were frequent, but the proximal location of the block made abdominal distention a rarity. Six patients showed evidence of chronic blood loss; a seventh had massive, acute bleeding from a benign, adenomatous, duodenal polyp. Five patients showed major loss of weight. Both patients with a palpable mass on initial examination had malignant tumors.

Three of the four tumors discovered incidentally during laparotomy were malignant; all were resected with expectation of cure. In four patients studied with less than ideal radiologic techniques, the clinical suspicion of small bowel tumor was not confirmed radiographically. Only five of our patients were diagnosed by preoperative roentgenograms. Our radiologists feel that more refined techniques today would demonstrate such lesions more regularly.

CASE REPORTS

Case # 1. A 64-year-old-white woman was admitted with a three-week history of cramping, midabdominal pain after meals. She had not vomited, but a restricted intake because of pain had resulted in weight loss of ten pounds. Her stools had been black for a month. She denied previous abdominal pain or melena. An abdominal operation had been performed many years previously for removal of a uterine leiomyoma.

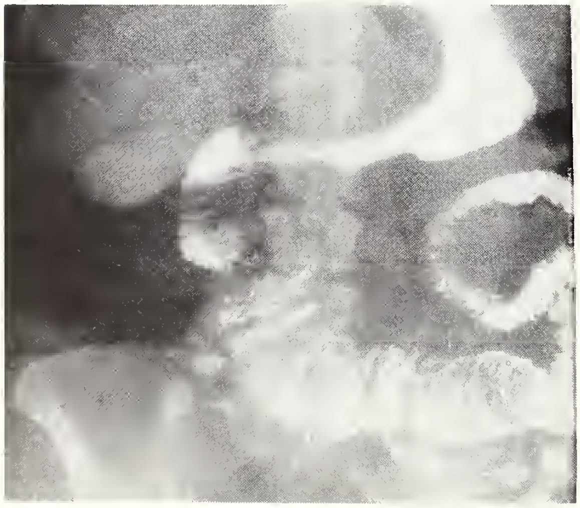

Fig. 1 Case # 1. Barium meal demonstrating intussusception of the duodenum.

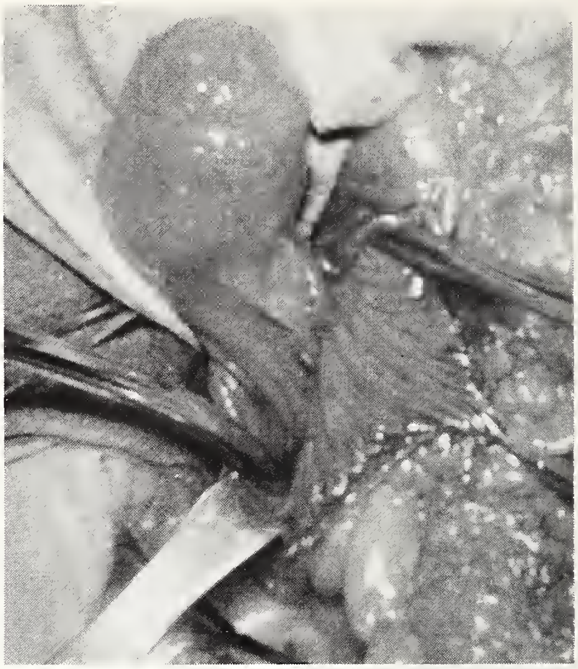

Fig. 2 Case # 1. The intussuscepting tumor is seen through the opened jejunum.

The patient was short and fat so that abdominal examination was unsatisfactory. Despite a large hernia through the previous low midline incision, no organs or masses were palpable. The hemoglobin was 10.2 grams percent, the venous hematocrit 32%. Examination for blood in the stool was strongly positive. All other laboratory studies were within normal limits.

A barium meal demonstrated a tumor of the duodenum with intussusception of the duodenum into the proximal jejunum (Fig. 1). At laparotomy, a tumor was palpable just beyond the ligament of Treitz; this seemed to be the lead point of the intussusception. A jejunotomy in this area disclosed a 6.5 × 5 × 3 cm firm, benign-looking tumor on a long stalk (Fig. 2). The tumor was ulcerated, but there was no active bleeding. The entire tumor with the mucosal base was excised and the intussusception was reduced. The diagnosis by frozen section was fibrolipoma (Fig. 3). The patient's course was smooth and she has remained well. A barium meal two months postoperatively was normal (Fig. 4).

Case # 2. A 44-year-old-white woman was admitted because of postprandial epigastric pain and vomiting for a year. She had lost 30 pounds and, on entry, weighed only 87 pounds and appeared chronically ill. There was no abdominal mass, distention or tenderness. Guaiac test for blood in the stool was positive. The hemoglobin was 11.5 grams percent, the venous hematocrit 34%. Other laboratory studies were normal. Contrast radiographic study showed an irregular proximal jejunal pattern. There was partial obstruction of the upper jejunum with intussusception and a polypoid filling defect (Fig. 5). Exploratory celiotomy demonstrated a jejuno-jejunal intussusception 15 cm below the ligament of Treitz (Fig. 6). After reduction of the intussusception, a polyp was palpable; the short segment of jejunum containing the polyp was resected. The polyp measured 2.5 cm in diameter (Fig. 7). The frozen section diagnosis was benign adenomatous polyp, confirmed by more detailed histologic examination (Fig. 8). The patient was discharged in ten days asymptomatic and gaining weight. She has continued to do well.

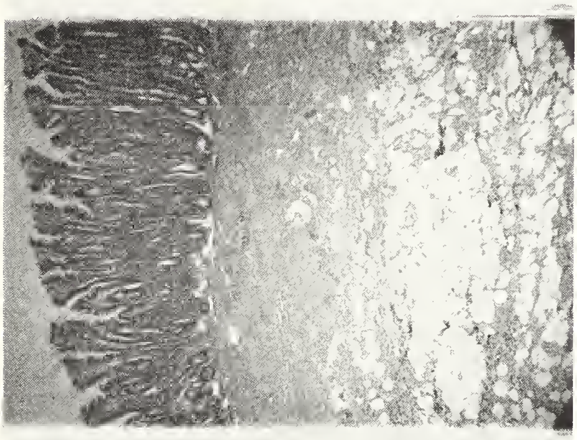

Fig. 3 Case # 1. Photomicrograph demonstrating the fibrous and adipose tissue characteristic of fibrolipoma duodenal mucosa on left side.

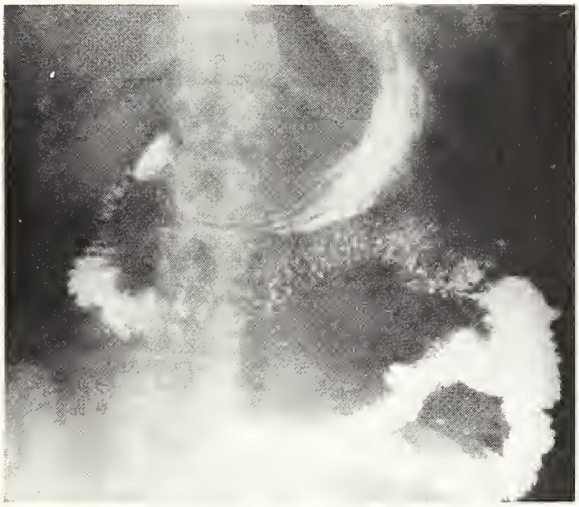

Fig. 4 Case # 1. Barium meal demonstrating no abnormality.

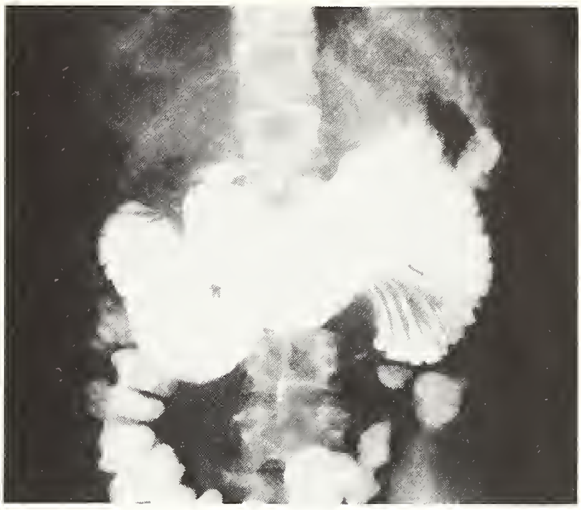

Fig. 5 Case # 2. Barium meal demonstrating intussusception into the jejunum.

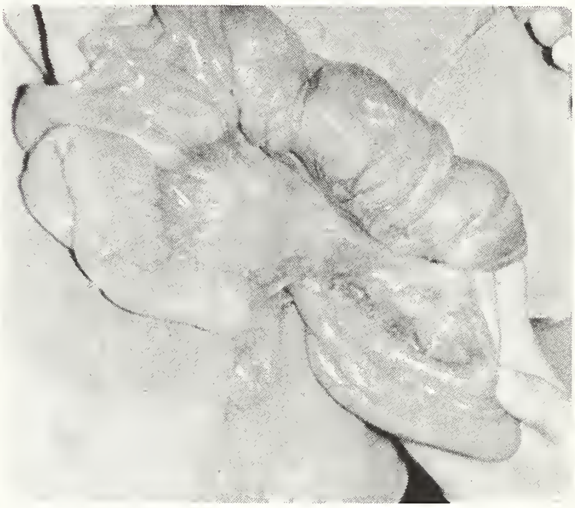

Fig. 6 Case # 2. The intussuscepting segment of jejunum as seen at laparotomy.

Discussion

Small bowel tumors are uncommon despite the extensive length of this intestinal segment.[1] A review of our own cases and the experience of others indicates that adenoma, lipoma and smooth muscle tumors are the most common benign types.[2] In the duodenum, adenocarcinoma is the most frequent malignancy[3]; lymphosarcoma is next in frequency and occurs in patients younger than those with other malignancies.

Symptoms produced by small bowel tumors are not specific.[1, 4, 5] The common obstructive signs may be intermittent because of intussus-

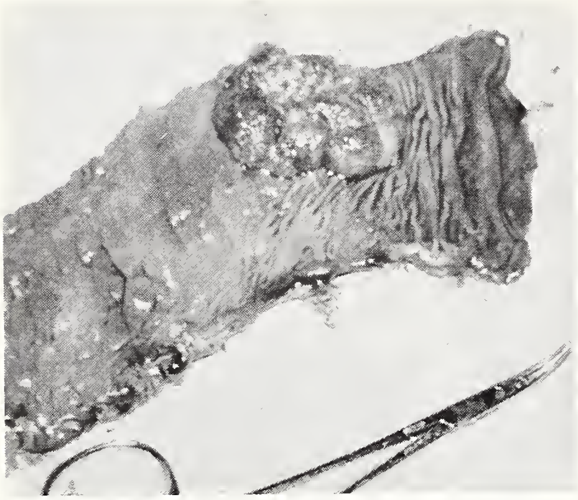

Fig. 7 Case # 2. The resected jejunal segment has been opened, demonstrating the polypoid tumor.

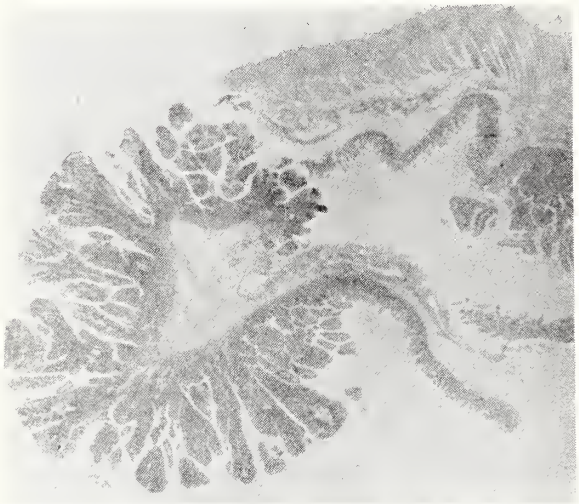

Fig. 8 Case # 2. This photomicrograph shows the benign adenomatous polyp.

ception, which reduces spontaneously. The duodenal intussusception reported here is highly unusual, because of the extensive fixation of this bowel segment. In our patient, it appears that the duodenal mucosa was the tissue which intussuscepted.

Because the palpable mass is related to intussusception, it also may appear only intermittently. The patient may feel the mass, but it may be absent at the time of examination by the physician.

In about half of the reported proximal small bowel tumors, there is bleeding from erosion of the tumor surface. Bleeding may be massive from either benign or malignant tumors and may be manifest by either melena or hematemesis. In the latter instance, with pain and high obstructive symptoms, duodenal ulcer may be simulated.

We do not intend to detail the newer radiologic techniques for small bowel examination, except to mention the use of special contrast substances combined with iced normal saline solution to modify the transit time. Polypoid defect, delay in transit time or evidence of intussusception are confirmatory of the diagnosis. Differentiation of benign and malignant tumors is not feasible radiographically.

SUMMARY

We have encountered 16 examples of proximal small bowel tumors in over 300,000 hospital admissions.

Pain, intermittent obstructive symptoms and gastrointestinal bleeding should suggest the possibility of this uncommon condition.

A high index of suspicion and detailed radiologic investigation is necessary to establish the diagnosis. If symptoms persist in the absence of clear radiologic signs, exploratory laparotomy should be considered.

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3. Good, C. A.: Tumors of the Small Intestine. Amer. J. Roentgen. 89:685-705, 1963.

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5. Lechner, G. W. and Connolly, P. J.: Benign Neoplasms of the Small Intestine. J. Amer. Med. Assoc. 169:2003-2008, 1959.

The AMA announces the availability of the eleventh guide in the series, "Guides to the Evaluation of Permanent Impairment," developed by the Committee on Rating of Mental and Physical Impairment. It is entitled "Guides to the Evaluation of Permanent Impairment—The Reproductive and Urinary Systems." This guide, like all the others in the series, has been designed primarily for use by physicians. A limited number of copies of this guide may be obtained, without charge, upon written request to the Committee on Rating of Mental and Physical Impairment, 535 North Dearborn Street, Chicago, Illinois 60610.

President's Message

The end of this month will terminate a year of intense activity on the part of your State Medical Association. The conclusion of this year will be gleefully anticipated by many, most of all by your humble servant.

The scientific program for our Annual Meeting as developed by Dr. Yore and his program committee promises to be very interesting and stimulating, leaving the interest of no one untouched. We hope that the new format of the Past Presidents Banquet will attract your attention and support. We intend to keep formalities and ceremonies down to the bare minimum. We have been very fortunate in acquiring Mr. Bill Vaughan of the Kansas City Starbeams column to address us, following which we will enjoy three full hours of dancing to the delightful music of Tony DiPardo and his orchestra.

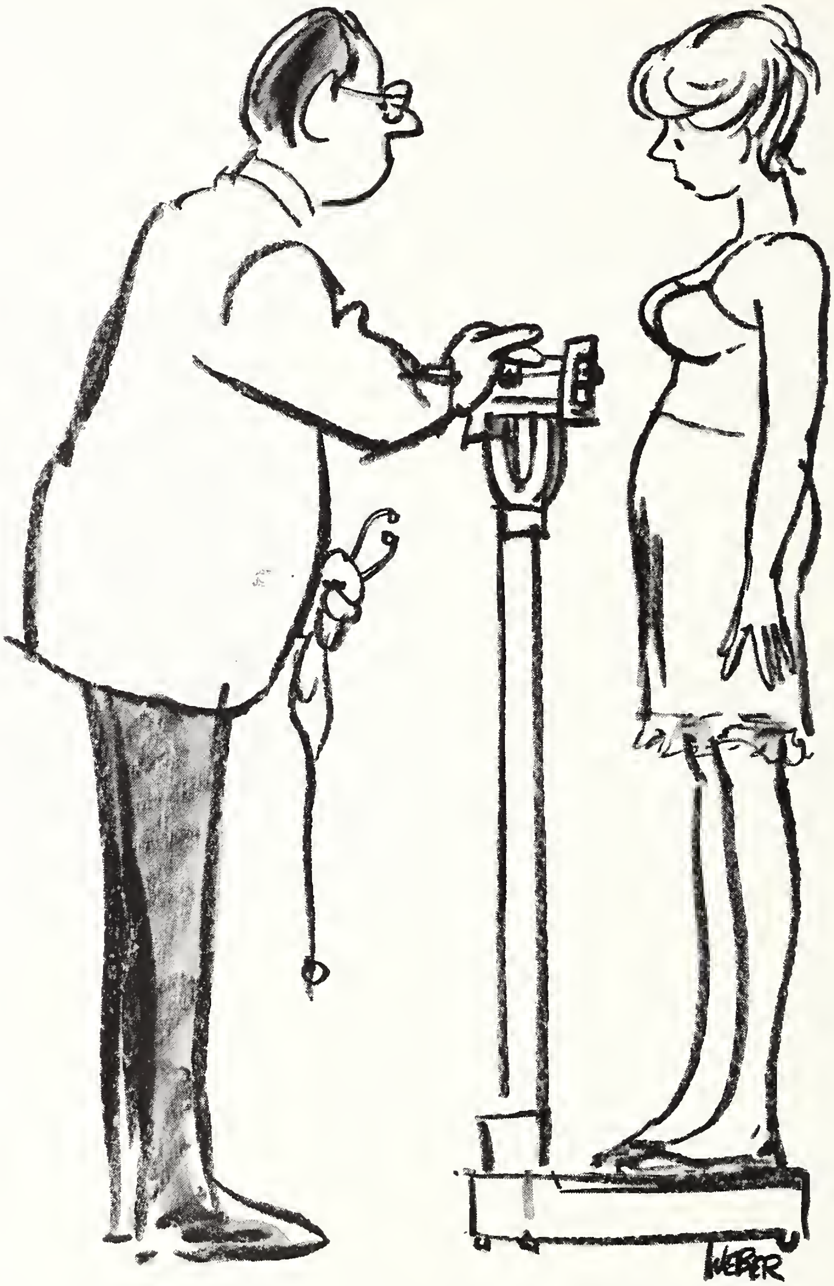
One of the features of the Annual Meeting, which I would like to underscore in your mind at this time, is the opportunity which you as an individual physician have at this meeting to make your particular wishes known on any matter relating to the Medical Association. The members of the House of Delegates, the Councilors and the Officers of the State Association have given untold hours of time and energy in the affairs of the Association this past year, and it has indeed been a trying year. None of them feel they are infallible. It is highly probable that different approaches to problems and ideas held by you as individual members, could help these elected and hard working members of your Association to more clearly define the goals and the roads which we are attempting to cut through the present jungle of social reformation and governmental domination.

Hector W. Benoit, Jr., M.D.

Your voice is needed in the reference committee meetings held by the House of Delegates. The floor is yours for the asking. The members of the House of Delegates and the Officers know full well that they will profit from your suggestions, and well thought out ideas which your interests will lead you to bring to this state meeting. It is not inconceivable that you yourself might learn something about the intricate problems which our profession is facing today, and which you may not have studied in depth as yet.

Please arrange to attend the Anunal Meeting in March. The Missouri State Medical Association needs you and we feel you need the Association.

See you in Kansas City March 28-31.



"You're up ten pounds since your last physical. We're going to have to do something about that."

Get them while they're easily reversible.

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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.
Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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Woman's Auxiliary

An auxiliary year to a State President becomes a succession of days, each of exquisite importance for auxiliary function and life. One spends an unbelievable amount of time away from family in body and spirit, but a new respect is gained from them. It is delight and satisfaction for a new auxiliary organized, an honor gained for Missouri or a successful program accepted. It is frustration and self-condemnation for lack of interest, failure of a new idea or a goal not achieved. It calls out the very best one can give in one year to planning and study. It creates a dedication to an organizational purpose that is seldom paralleled. It is an education in organization, detailing, diplomacy, wisdom, judgment, writing, speaking and physical stamina. It all adds up to one of the most demanding, rewarding and wonderful experiences an auxiliary member can have. My sincere thanks go to the Missouri State Medical Association which makes all this a reality by being our parent organization and whose help makes possible our *Rx Auxiliary News,* a fine, quarterly publication sent to all auxiliary members. I deeply appreciate the graciousness and cooperation I have received from your President, Dr. Hector W. Benoit, Jr., Mr. Ray McIntyre in the state office and from all the doctors I have met and with whom I have worked wherever I have been in all my travels.

Mrs. John M. Williams

It is a rare privilege to write for MISSOURI MEDICINE. We are most grateful for this opportunity. I admit my articles have ranged from reporting to the "soap box." This only goes to prove that real involvement in auxiliary work creates an interest and belief in Medical Association and Auxiliary purposes and a conviction that we must work for the potential strength and cooperation of both organizations. We have hoped that the emphasis last year on "Know Your Auxiliary" would develop the "Auxiliary Leadership—Community Leadership" goal we emphasized this year. Auxiliary purposes are sound and good. Our program is current, dynamic and needed. Our goal is increased interest and participation.

To your wives, The Woman's Auxiliary, who placed me in this once-in-a-lifetime year, I dedicate my true affection and concern for the progress and growth of our Auxiliary for which we all work. My deepest gratitude to you all for the privilege of working with you and for you.

EDITORIALS

IS YOUR MEDICAL SOCIETY DYING?

We complain about the stifling of individual freedom by our Government's relentless erosion of this freedom in the evergrowing monster of socialism.

We talk about the slowness of our community to solve such medical problems as sewage disposal, air pollution, rat control and medical care in the ghetto areas.

We are angered by unjust criticism of our news media that presents the physician in less than a favorable light.

We are alarmed by the fact that many people of our community no longer feel that the physician is capable of directing modern medical care and planning the new era of the changing pattern of medicine.

Is your Medical Society dying? Has it outlived its usefulness? The medical needs of our community are greater today than at the time our societies were formed. The machinery for effective participation of the doctor in his community can be easily had through an energetically supported Medical Society.

If you have a genuine concern about the big picture of medical care in your community, you will support your Medical Society by active participation or you will look for and find a new mechanism through which to express your ideas.

Let's either give the medical societies a transfusion of support or bury them. Don't let your society linger in a state of impotency because of your apathy and complacency.

WILLIAM R. ALLEN, M.D.
The Greater Kansas City Medical Bulletin

THE "COMMON MAN" BUNK

Of all the hogwash that daily descends upon the citizenry from the Great Society, surely the most offensive is the nauseating concern voiced for the "common man." Some of the welfare-minded lame brains north of the Potomac have even suggested that this should be the "Century of the Common Man."

To give special consideration to the so-called "common man" is to give consideration to mediocrity, and if there was ever a time in American history when this nation needed something far better than mediocrity, that time is now.

Just what has the "common man" done to merit this lavish attention? Nothing. To the contrary, it was "uncommon men" who have made this country what it is today.

Apparently those who espouse the "common man" concept are thinking in terms of all men being equal. That's a lot of bunk, too, no matter what the Supreme Court, LBJ or anybody else might say. A country composed of men and women who are equal, who all fall into the category of "common people," might survive 15 minutes if it were lucky. And it would be a dreadfully dull 15 minutes.

The point to be made here was made much more effectively a few years ago in a speech by former President Herbert Hoover. Read carefully what he had to say:

"Let us remember that the great advances have not been brought about by mediocre men and women. They were brought about by distinctly uncommon people with vital sparks of leadership. Many of the great leaders were, it is true, of humble origin, but that alone was not their greatness.

"It is a curious fact that when you get sick you want an uncommon doctor; if your car breaks down, you want an uncommonly good mechanic; when we get into war, we want dreadfully an uncommon admiral or general.

"I have never met a father or mother who did not want their children to grow up to be uncommon men and women. May it always be so."

We can reach but one conclusion in our mind—those who champion the cause of the "common man" are not in the least uncommon themselves.

*Journal of the Medical Association
of the State of Alabama*

A PARTIAL SOLUTION TO POLLUTION

Like Joseph Wood Krutch, I find that I am becoming increasingly more certain that the world is going down the wrong path. I have the feeling that a great number of so called scientific and technological advances are in reality losses. This is particularly true of our modern methods of transportation. If civilization is not destroyed by the atom bomb, I predict that the world will end as a result of an immense traffic snarl. This might well start on the Schuylkill Expressway and extend to the remainder of the civilized world. Those who did not die of starvation or smog inhalation would succumb to exasperation.

A minor, but important, example of misdirected effort came to my attention around the beginning of July of this year *(1967)*. At that time, the street diggers began to take the paving blocks out of the center of Chestnut Street where it approaches Waterville Bridge over Ridley Creek, thus obliterating all traces of the old trolley line which ran from Chester to Media.

Street cars had many advantages over the vehicles available for transportation today. For one thing, the ride was smoother. Although many of the streets were unpaved, the street cars traveled over a level road bed in pleasant contrast to the ruts on either side. Today, many of the streets that are designated as paved roads are in worse condition than the old dirt roads, and if trollies were still in existence, I am certain that a number of people, especially those with slipped discs, sliding hernias or loose gravel in their kidneys or gall bladders, would ride them by preference.

Trolley cars always followed the same route. They more or less had to on account of the tracks. The operator could sit in the front of the car without ever having to steer, and you could be sure that the car was progressing forward to proper destination. This consistency also benefitted prospective passengers. They could be reasonably sure that if they waited beside the trolley tracks that a car would eventually come along. Today's buses are not as reliable in this respect, and it is not uncommon to see a forlorn figure waiting for a will-o-the-wisp beside a sign that indicates a bus stop.

You used to be able to open the windows on street cars and enjoy a nice breeze. Some of them were open air trollies, which was even more delightful. Today, you can't even open a window on a bus with a crowbar. This is the era of air-conditioning—when it works.

Street cars produced almost no odor. There was a conductor on one of the old Number 12 cars who was rather rank but, in general, the trolley odor was minimal. About the only detectable smell associated with trollies was that of fresh electricity and occasionally, if a cow had been caught, there was a distinct milky smell. This, of course, was more pleasant than the noxious fumes which emanate from today's motor vehicles, particularly the large buses.

It did seem that trollies were much more economical to ride than today's public vehicles. But I suppose that with inflation, the fares would be higher today. Even so, considering the many superior qualities of street cars, the fare would be a bargain. Perhaps rather than taking the old roadbed out of Chestnut Street and repaving it, it would be better to put the tracks down again. This might be the beginning of the war against air pollution.

HARRY V. ARMITAGE, M.D.
Pennsylvania Medicine
(Excerpted from the bulletin of the *Delaware County Medical Society)*

Blessed event?

Not entirely, when nausea and vomiting occur in early pregnancy. Emetrol offers prompt and safe relief. Local rather than systemic action provides emesis control on contact with the hyperactive G.I. tract.* In a study of 123 pregnant women, the drug produced measurable improvement in 79% of patients in controlling vomiting.[1]

*As shown by *in vitro* studies.
1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.

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emesis control

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FINANCIAL STATEMENT FOR THE YEAR 1967

LENNERTSON & COMPANY

Certified Public Accountants
214 South Bemiston Avenue

ST. LOUIS, MISSOURI 63105

January 24, 1968

Missouri State Medical Association,
515 East High Street,
Jefferson City, Mo. 65101.

Gentlemen:

A review was made of the accounts of the Missouri State Medical Association, a non-profit Missouri corporation, for the year 1967, and a report thereon is presented together with the following exhibits:

Exhibit A	Balance Sheet
Exhibit B	Income Statement
Exhibit C-1	Statement of Committee and Meeting Expenses
Exhibit C-2	Statement of Investments
Exhibit D	Dues Receivable and Membership by Societies

It should be noted that members' dues and investment income are taken into income on the cash receipt basis whereas the other accounts are maintained on the accrual basis. Rentals received in advance for Annual Session exhibit space are shown as prepaid and carried forward to the year to which they apply.

Scope of Examination

The Balance Sheet at December 31, 1967 and the Income Statement for the year then ended were reviewed. Examinations or tests were made of the accounting records, in the manner and to the extent deemed appropriate, without making a detailed audit of the transactions.

Recorded cash receipts for the year were traced in total into the bank as deposits and disbursements for the period were substantiated by an inspection of paid checks, purchase invoices and other data on file.

Selective tests were made of the income and expense accounts for the period. It was noted that space in the Journal was contributed to the United States Treasury Department for bond advertising, to members for small classified ads, and to the Missouri State Medical Foundation.

Income Statement

The financial result of activities of the Association for the year 1967 was an excess of income over expenses of $28,268.18 as set forth in Exhibit B.

Balance Sheet

The financial position of the Association at December 31, 1967 is presented in Exhibit A. Comments on the larger balance sheet accounts follow:

Cash in banks, as shown by the books, was reconciled to the regular monthly bank statements and confirmations received from the depositaries. The petty cash fund was verified by physical count.

Investments with a cost of $112,573.96 and a certificate of deposit for $15,000 were confirmed by a statement from the custodian, Mercantile Trust Company. Investment income for the year was as follows:

Interest—Certificate of Deposit	$ 505.55
Interest and discount on bonds	2,835.46
Dividends on Stock	1,207.00
Total Investment Income	$4,548.01

Accounts Receivable of $6,175.09 represent the unpaid balance due from Journal advertisers. Of this amount $6,043.09 was due from the State Journal Advertising Bureau as follows:

December 1967	$2,593.06
November 1967	3,236.34
Prior to November 1967	213.69
Total	$6,043.09

On January 11, 1968, a check was received paying $3,382.03 of the November and prior accounts.

Unpaid dues of $3,495.00, offset by a reserve account in like amount, represent 1967 dues of delinquent members carried at the requests of local Societies. Other delinquent members were dropped from membership in accordance with the by-laws. Exhibit D presents a summary of unpaid dues and membership by Societies, as shown by the records of the Association.

Furniture and fixtures continue to be stated in the fixed amount of $1,000. Equipment purchases, rentals and repairs for the year in the sum of $2,902.21 were charged to expense in lieu of depreciation.

The records were carefully reviewed for liabilities at December 31, 1967 and it is believed that all current liabilities of substantial amount are included in the Balance Sheet. The by-laws state that the Association may furnish financial assistance to defray costs, not to exceed $300, on each individual malpractice suit. The Association reports one suit in litigation at year-end.

Exhibitors have made advance payments of $4,845 for annual session exhibit space and these payments will be taken into income when earned in 1968.

The excess of assets over liabilities in the amount of $144,690.91 is shown in the Balance Sheet as a "Reserve for Future Activities."

General

During the year, payments were made to and for the following sponsored organizations:

Missouri State Medical Association Pension Fund	
Employees' Retirement Insurance Premiums	$5,017.74
Employees' Pension Plan Contribution	4,000.00
Total	$9,017.74

Missouri State Medical Foundation—Insurance, audit, printing and meeting expense	$2,278.92

Collections for the American Medical Association and the Missouri State Medical Foundation are made along with the annual Missouri State Medical Association dues. Following is a schedule of dues and assessments for each member:

	Active	*Junior*
Journal	$ 3.00	$ 3.00
Association General Fund	49.50	23.25
Foundation Assessment	7.50	3.75
Missouri State Medical Association Dues and Assessments Total	$ 60.00	$ 30.00
American Medical Association	70.00	70.00
Total	$130.00	$100.00

Except for $28.09, the 1967 collections of $25,960.96 for the Missouri State Medical Foundation have been remitted along with $35.61 due from the year 1966. The $70 per member collected for the A.M.A. totaling $231,840.00 and $517.50 for 1966 have been remitted except for $140.00.

Insurance policies were inspected and the following general insurance was in force at the close of the year:

Insurance on	*Type of Coverage*	*Amount*
Furniture and Fixtures	Fire and Extended Coverage (80% co-ins.)	$ 6,500
Employees	Workmen's Compensation	Statutory
Lessee's Liability	Bodily Injury	$25,000/ 50,000
Treasurer	Fidelity Bond	$ 20,000
All Other Employees	Fidelity Bond	$ 10,000
Journal Publication	Publishers' Liability (2,500 deductible)	$500,000
Journal Publication	Advertisers' Libel (2,500 deductible)	$500,000
Automobiles of Executive Secretary and two assistants	Non-ownership—Bodily Injury	$50,000/100,000
	Non-ownership—Property Damage	$ 5,000
Members and Auxiliary members on M.S.M.A. business	Travel Accident (away from home)	$25,000/250,000

Subject to the comments thereon, the attached statements, in our opinion fairly present the financial position of the Missouri State Medical Association at December 31, 1967 and the result of the activities for the year then ended. The records were kept in a good accounting manner and in accordance with accepted principles of accounting applied on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson & Co.
Certified Public Accountants

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1967

Assets

Cash		
Mercantile Trust Company (Treasurer's Account)	$ 21,266.66	
Central Missouri Trust Company (Secretary's Account)	309.06	
Certificate of Deposit due May 7, 1968	15,000.00	
Petty Cash Fund	25.00	$ 36,600.72
Investments at Cost		
(Exhibit C-2)	$ 80,517.51	
Corporate Bonds	5,000.00	
Common Stocks	27,056.45	
Total (Market Value $112,424.23)		112,573.96

Accounts Receivable

Advertisers	$ 6,175.09	
Mercantile Trust Company—Investment Custodian	1,247.47	7,422.56
Dues Receivable—Exhibit D (See Reserve—contra)		3,495.00
Furniture and Fixtures (at stated value)		1,000.00
Advances for Travel Expenses		705.56
		$161,797.80

Accounts Payable *Liabilities*

Supplies and Expenses	$ 6,636.07	
Payroll Taxes	1,962.73	
Due Missouri State Medical Foundation	28.09	
Due American Medical Association	140.00	$ 8,766.89

Deferred Credit to Income

Advance Payments by Exhibitors for 1968 Meeting		4,845.00
Reserve for Uncollected Dues		3,495.00
Contingent Liability—One malpractice suit pending—$300		

Reserve for Future Activities

Balance January 1, 1967	$116,422.73	
Excess of Income over Expenses for the year 1967, Exhibit B	28,268.18	144,690.91
		$161,797.80

Exhibit B

Missouri State Medical Association Income Statement, for the Year 1967

Income *Particulars*	*General Activities*	*Journal Publication*	*Total*
Dues Received (including $3.00 per member annually for The Journal)	$171,165.54	$ 10,153.50	$181,319.04
Rentals—Annual Session Exhibit Space	10,170.00		10,170.00
Subscriptions to The Journal—Non-members		410.90	410.90
Advertising Space—The Journal		49,831.99	49,831.99
Investments—Interest and Dividends	4,548.01		4,548.01
Collection Fees on A.M.A. Dues	2,323.48		2,323.48
Collection Fees on Taxes Withheld	21.25		21.25
Total Income	$188,228.28	$ 60,396.39	$248,624.67
Expenses			
Salaries	$ 55,300.98	$ 27,650.49	$ 82,951.47
The Journal—Paper, Printing, etc.		36,083.91	36,083.91
Cash Discounts to Advertisers		165.05	165.05
Commission on Journal Advertising		7,287.20	7,287.20
Postage	3,461.87	846.22	4,308.09
Committee and Meeting Expense	48,344.05		48,344.05
Custodian Fees—Investments	258.40		258.40
Dues, Directories and Clipping Service	535.06	161.75	696.81
Employees' Pension Plan Contributions	9,017.74		9,017.74
Equipment Purchases, Rentals and Repairs in Lieu of Depreciation	2,902.21		2,902.21
Insurance—Blue Cross	832.54		832.54
Insurance—General	540.97	175.00	715.97
Missouri State Medical Foundation	2,278.92		2,278.92
Office Rent and Light	4,864.28		4,864.28
Professional Fees	5,331.57		5,331.57
Stationery, Printing and Office Supplies	4,313.56		4,313.56
Student Awards	254.36		254.36
Taxes—Payroll	2,630.47		2,630.47
Telephone and Telegraph	4,398.90		4,398.90
Traveling Expenses—Executive Secretary and Assistants	2,720.99		2,720.99
Total Expenses	$147,986.87	$ 72,369.62	$220,356.49
Excess of Income or (Expenses)	$ 40,241.41	$(11,973.23)	$ 28,268.18

Exhibit C-1

Missouri State Medical Association Statement of Committee and Meeting Expense for the Year 1967

Annual Session		$15,313.52
Council Meetings and Councilors' Expenses		7,022.25
Delegates to A.M.A.		8,113.79
Public Service		13,099.45
Woman's Auxiliary		2,830.03
Committees:		
Alcoholism	$ 18.25	
By-laws	42.52	
Disaster Medical Care and National Defense	49.46	
Infant and Child Care	305.40	
Legislation	178.83	
Maternal Welfare	64.25	
Medical Economics	714.71	
Medicine and Religion	71.40	
Mental Health	97.66	
Nursing and Paramedical Personnel	122.73	
Rural Health	37.46	
Scientific and Post-graduate Work	181.36	
Utilization Review	35.50	
Venereal Disease Control	45.48	1,965.01
Total		$48,344.05

Exhibit C-2

Missouri State Medical Association Statement of Investments December 31, 1967

Description	*Bonds at Par*	*Cost*
U. S. Treasury 2½% Bond 12/15/68-63	$10,000.00	$ 10,000.00
U. S. Treasury 2½% Bond 6/15/69-64	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/70-65	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/71-66	5,500.00	5,500.00
U. S. Treasury 3⅞% Bond 5/15/68	10.000.00	10.000.00
U. S. Treasury 4 % Bond 10/ 1/69	25,000.00	25,008.83
U. S. Treasury 4¾ % Bond 5/15/72	10,000.00	10,008.68
Pacific Gas & Electric 4½% Bonds 6/1/90	5,000.00	5,000.00
Central & Southwest Corp. 200 shares		6,345.62
Johns Manville Corp. 100 shares		5,582.34
Morgan Guarantee Trust Co. of N. Y. 61 shares		5,161.93
Standard Oil of California 110 shares		5,031.19
Union Carbide Corp. 74 shares		4,935.37
Total		$112,573.96

Exhibit D-1

Missouri State Medical Association Dues Receivable and Membership by Societies December 31, 1967

MEMBERSHIP

Societies	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
Andrew		2	1	3	
Audrain	1	18	1	20	
Barton-Dade		7		7	
Benton			1	1	
Boone	30	126	2	158	$ 330.00
Buchanan	6	75	12	93	120.00
Butler-Wayne-Ripley	3	36	1	40	
Callaway	1	14	2	17	60.00
Cape Girardeau	2	51	3	56	
Carter-Shannon		1		1	
Chariton-Macon-Monroe-Randolph		18	4	22	
Clay	9	56	1	66	60.00
Clinton	1	5		6	
Cole	3	42	5	50	
Cooper	1	10		11	
Dallas-Hickory-Polk		7	2	9	
Dunklin	2	14	2	18	
Franklin-Gasconade-Warren	1	25	1	27	
Grand River		38	3	41	60.00
Greene	11	153	9	173	
Henry		9	2	11	60.00
Howard		6		6	
Jackson	71	671	123	865	480.00
Jasper	4	56	5	65	60.00
Jefferson	4	13	3	20	
Johnson	1	12	1	14	
Lafayette-Ray	2	23	1	26	

Lewis-Clark-Scotland		2		2	
Lincoln-St. Charles	5	38		43	
Marion-Ralls-Shelby	1	24	3	28	
Mid-Missouri	10	21	2	33	
Miller		2		2	
Mineral Area	1	30	4	35	
Moniteau		3	1	4	
Montgomery		4		4	
Morgan		4		4	
North Central	2	9		11	
Northwest Mo.		15	2	17	
Ozarks		38	7	45	$ 120.00
Pemiscot		13	1	14	120.00
Perry-Ste. Genevieve		9	2	11	
Pettis	2	26	3	31	60.00
Pike		9	1	10	
Platte	1	6	1	8	
St. Louis City	141	1,156	90	1,387	1,785.00
St. Louis County	26	380	41	447	
Saline		13	3	16	
Semo	1	30	3	34	180.00
South Central	1	17	3	21	
Webster		2		2	
West Central	6	28	7	41	
Totals	350	3,367	359	4,076	$3,495.00 (A)

(A) Delinquent dues of members at December 31, 1967 carried at the request of local Societies.

FINANCIAL STATEMENT FOR THE YEAR 1967

LENNERTSON & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS
214 SOUTH BEMISTON AVENUE
ST. LOUIS, MISSOURI 63105

January 29, 1968

Missouri State Medical Foundation
515 East High Street
Jefferson City, Mo. 65101

Gentlemen:

The records of the Missouri State Medical Foundation, a non-profit Missouri corporation, were reviewed for the year 1967. The Balance Sheet at December 31, 1967 and the additions for the year are set forth in Exhibit A.

Recorded receipts for the year were traced in total into the bank account as deposits and paid checks were seen for the disbursements. A direct confirmation was received from the depositary in verification of the cash balances on deposit.

A summary of the loans to medical students follows:

Loans Receivable January 1, 1967	$202,278.56	
Loans made during the year	38,325.00	
Interest added to principal	733.01	
Total	$241,336.57	
Less Loan Repayments	7,331.76	
Loans Receivable December 31, 1967		$234,004.81

Individual records of loans were reviewed and student loan contracts were inspected. The Foundation carried insurance on the lives of students to assure repayment of the loans in the event of death. Interest income on loans is recorded on a cash basis and the amount received in 1967 was $1,033.45. Accrued interest on outstanding loans at December 31, 1967 amounted to $13,280.89.

Interest received on the savings account and the certificate of deposit amounted to $505.23. The certificate of deposit due January 6, 1968 was renewed for six months and interest of $477.08 was received.

The Missouri State Medical Association paid expenses for the Foundation as follows:

State Registration Fee	$ 2.00
Professional Fees	400.00
Insurance Premiums	1,354.72
Printing, Stationery, Postage	467.75
Meeting Expense	54.45
Total	$2,278.92

These amounts have not been recorded as receipts and disbursements on the records of the Foundation.

U. S. Treasury Department form 990A has been prepared for the year 1967 and is due for filing on May 15, 1968.

Yours very truly,
LENNERTSON & CO.,
Certified Public Accountants

EXHIBIT A

Missouri State Medical Foundation Balance Sheet (Cash Basis), December 31, 1967

Assets

Cash in Checking Account	$ 22,396.86
Savings Account	506.23
Certificate of Deposit due January 6, 1968	19,083.51
Loans Receivable from Medical Students	234,004.81
Total Assets	$275,991.41

Fund Reserve

Balance January 1, 1967		$244,536.74
Cash Additions for Year 1967		
Interest on Loans	$ 1,033.45	
Interest on Bank Deposits	505.23	
Interest added to Principal	733.01	
Contributions (see below)	3,214.50	
Assessment of members—Active $7.50; Junior $3.75	25,968.48	
Total for year 1967		31,454.67
Total Reserve		$275,991.41

Contributions

West Central Society, Nevada, Mo.	$ 600.00
Paul R. Whitener, M.D., St. Louis, Mo.	250.00
Boonville Medical Group, Boonville, Mo.	100.00
Ralph Ringo Coffey, M.D., Kansas City, Mo.	100.00
Northland Orthopedic Group	100.00
Roy W. Pearse, Jr., M.D., Nevada, Mo.	100.00
South Central Medical Society, West Plains, Mo.	100.00
Quinton Tarver, M.D., Kennett, Mo.	100.00
Sub-total	$1,450.00
Contributions under $100 each	1,764.50
Total Contributions	$3,214.50

Diarrhea
TROCINATE® 400 MG.
BRAND THIPHENAMIL HCl.

The relief received from the first Trocinate 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinate 400 mg. with literature will be sent to physicians for their personal use.

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New Members

Carl E. Aulenbacher, M.D., 645 South New Ballas Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Aulenbacher is a native of Washington, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1965. He specializes in general surgery.

Menzie H. Brown, M.D., 425 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Brown is a native of Sabetha, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in radiology.

Jess E. Burks, M.D., 3809 North Union Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Burks is a native of Gary, Indiana, received his preliminary education at Wabash College and his M.D. degree at St. Louis University in 1945. He is in general practice.

William A. Challener, III, M.D., 902 Edmond St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Challener is a native of Pittsburgh, Pennsylvania, received his preliminary education at Allegheny College and his M.D. degree at the University of Pennsylvania in 1953. He specializes in internal medicine.

James S. **Criscione,** M.D., 3316 Russell Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Criscione is a native of Youngstown, Ohio, received his preliminary education at Youngstown University and his M.D. degree at St. Louis University in 1964. He specializes in anesthesiology.

Robert H. Dovenmuehle, M.D., 24th and Cherry Sts., Kansas City, has become a member of Jackson County Medical Society. Dr. Dovenmuehle is a native of St. Louis, received his preliminary education at Valparaiso University and his M.D. degree at St. Louis University in 1948. He specializes in psychiatry.

Stephen L. Hantman, M.D., 2850 West Clay St., St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Hantman is a native of New York City, received his preliminary education at Miami University and Washington University and his M.D. degree at the University of Missouri in 1963. He specializes in internal medicine.

George P. Hoech, Jr., M.D., 6400 Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. Hoech is a native of Clayton, received his preliminary education at William Jewell College and his M.D. degree at Washington University in 1960. He specializes in anesthesiology.

John F. Medler, M.D., 1369 Pooshee, Charleston, South Carolina, has become a member of St. Louis County Medical Society. Dr. Medler is a native of St. Louis, received his preliminary education at Georgetown University and his M.D. degree at St. Louis University in 1963. He specializes in obstetrics and gynecology.

Robert N. Miller, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Miller is a native of St. Louis, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1961. He specializes in anesthesiology.

Ivan T. Myers, M.D., 218 South Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Myers is a native of Blytheville, Arkansas, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1964. He specializes in obstetrics and gynecology.

Jere O. Osborne, M.D., Meyer Blvd. at Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. Osborne is a native of Columbus, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1953. He is in general practice and surgery.

Bonita J. Peterson, M.D., 30th and Wyandotte, Kansas City, has become a member of Jackson County Medical Society. Dr. Peterson is a native of Burdick, Kansas, received her preliminary education at the University of California and her M.D. degree at Columbia University in 1954. She specializes in pathology.

Jerry M. Petty, M.D., 634 North Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Petty is a native of Gastonia, North Carolina, received his preliminary education at the University of North Carolina and his M.D. degree at the University of North Carolina in 1960. He specializes in neurosurgery.

B. Prophete, M.D., 3737 North Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Prophete is a native of Cap-Haitien, Haiti, received his preliminary education at the University of Haiti and his M.D. degree at Faculte de Medicine, Port-au-Prince, Haiti in 1947. He specializes in urology.

William F. Sasser, M.D., 8024 Orlando Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Sasser is a native of Fitzgerald, Georgia, received his preliminary education at Vanderbilt University and his M.D. degree at Emory University in 1960. He specializes in thoracic surgery.

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- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide	195 mg.
Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

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DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

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water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

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SPRING PROFESSIONAL PROGRAM

The Ellis Fischel State Cancer Hospital
and
Cancer Research Center
Columbia, Missouri

Saturday, April 6, 1968

9:00 AM Introductory Remarks, Kenneth M. Endicott, M.D., Director, National Cancer Institute, Washington, D. C.

9:10 AM *The Philosophy and Rewards of Cancer Detection,* Emerson Day, M.D., Director, Strang Cancer Detection Center, New York, New York.

9:50 AM *Potential Adverse Effects of Cancer Detection,* John S. Spratt, Jr., M.D., Director, Cancer Research Center, Columbia, Missouri.

10:30 AM Coffee.

10:50 AM *An Economic Appraisal of Cancer Detection,* Francis R. Watson, Ph.D., Biostatistician, Cancer Research Center, Columbia, Missouri.

11:30 AM *A Statistical Evaluation of Recurrent Cancer Examinations,* Thomas L. Lincoln, M.D., The Rand Corporation, Santa Monica, California.

12:00 NOON Luncheon.

1:00 PM *Oral Cytology,* N. H. Rowe, Jr., D.D.S., Washington University School of Dentistry, St. Louis, Missouri.

1:20 PM *The Gastric Camera,* Walter L. Trudeau, M.D., Washington University School of Medicine, St. Louis, Missouri.

1:40 PM *Automated Pulmonary Cytology,* Melvin P. Ehrlich, President, Nuclear Research Associates, Inc., New Hyde Park, New York.

2:00 PM *Cervical Cytologic Sampling of Puerto Ricans,* Jean Ubinãs, M.D., Radiotherapist, Nuclear Center, San Juan, Puerto Rico.

2:00 PM *The Endometrial Brush,* David G. Hall, M.D., Professor of Obstetrics and Gynecology, University of Missouri School of Medicine, Columbia, Missouri.

2:40 PM *An Integrated Cancer Detection System,* Galen B. Cook, M.D., Cancer Research Center, Columbia, Missouri.

3:00 PM Tour of DETECT Mock-up.

4:00 PM Dedication of Cancer Research Center Building No. 1.
Kenneth M. Endicott, M.D.
W. C. Whitlow, LL.B.
John S. Spratt, Jr., M.D.

5:00 PM Reception.

Accredited by the Academy of General Practice.

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ENDURON® **ENDURONYL®**

METHYCLOTHIAZIDE

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg

Indications: Edema and mild to moderate hypertension (Enduron), and mild to moderately severe hypertension (Enduronyl). More potent agents, if added, can be given at reduced dosage.

Contraindications: Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease or impending hepatic coma (hepatic coma due to hypokalemia has been reported in patients on thiazides). Do not use Enduronyl in severe mental depression, suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amendable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

TM-TRADEMARK

Contraindications: Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery ¼ to ⅕ the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake. is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

Adverse Reactions: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.

801438

ABBOTT

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

The January 3 meeting of the Buchanan County Medical Society was held in St. Joseph. Fifty members attended the business session and program.

Probate Judge Richard W. Dahms, Buchanan County, and O. W. Watkins, Jr., presented a discussion on "Estate Planning for the Physician." Judge Dahms told about the operations and services of the Probate Court and Mr. Watkins discussed the many considerations in estate planning. The speakers were introduced by Dr. John R. Forgrave. Dr. Berwyn H. Moen presided at the meeting.

Owen W. D. Craig, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society met on January 1 in Lexington with 25 members and guests present. Guests were the Honorable Richard Dale, State Representative from the 83rd District, and Mrs. Dale.

President Franklin A. Crozier presided at the business meeting which followed a social hour and dinner. Dr. W. E. Martin was made an honor member of the Society by unanimous vote. There being no further business, the meeting was turned over to the guest speaker, Representative Dale, whose topic was "Lawyer, Legislature Looks at Medical Laws."

Representative Dale first spoke of the interference and control which is being exerted by the Federal government on the practice of medicine and on the medical profession, as such. He stated that most of the big problems evolving from Medicare and Medicaid thus far in this and other states have resulted from a lack of obtaining technical advice from the medical profession by the legislators who wrote and enacted these laws. It was his opinion that the lack of obtaining proper advice from the medical profession was the result of a lack of cooperation between the medical profession and the legislator. He felt certain that many physicians throughout the country are unhappy with the enactment of these laws and the added headache of paper work due to Medicare and Medicaid.

In this regard, Representative Dale was sympathetic, but he indicated that in the future these matters would become worse without proper advice and cooperation of the medical profession with both the State and Federal legislatures.

Representative Dale urged the members of both the medical and legal professions to enter into government as much as possible in an effort to keep the government on a high professional level and to keep out politicians who are primarily interested in politics and perpetuating themselves, rather than doing what might be necessary and, as a result, what might not be popular with voters to help the country.

Following the program, the meeting was adjourned.

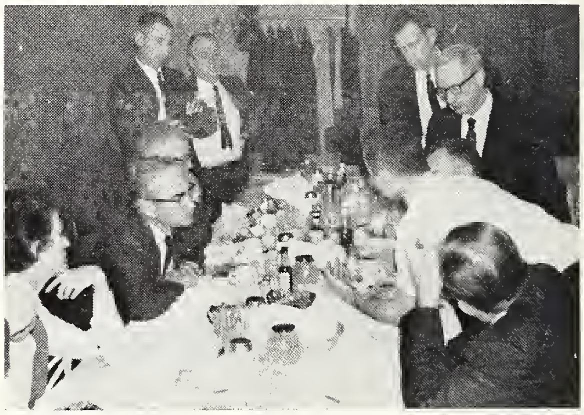
Wayne Boydston, M.D., *Secretary*

EIGHTH DISTRICT

COUNCILOR
DOYLE C. McCRAW, M.D., BOLIVAR

Ozarks Medical Society

The Ozarks Medical Society held its regular meeting on January 9 in Monett. A dinner and scientific program followed a social hour.



Members of the Ozarks Medical Society responded with intense interest as Dr. Bruce Shackter illustrated his talk on "Hand Injuries."

Guest speaker for the evening was Bruce I. Shackter, M.D., orthopedic surgeon from Springfield. Dr. Shackter spoke on the subject, "Hand Injuries." A question and answer period followed his interesting presentation.

Charles A. Spears, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Butler-Wayne-Ripley Medical County Society

The regular meeting of the Butler-Wayne-Ripley County Medical Society was held on January 16. Dr. A. T. Tuma, president, presided. Members present were Drs. Joe E. Hecker, Marvin Morgan, Fred Caldwell, W. Alex Hoja, George Ladyman, T. Eugene Ruff and Ernest M. Tapp.

At the business meeting which followed the dinner, the following delegates to the MSMA Annual meeting on March 28-31 were elected unanimously: Butler County—Dr. E. T. Hansbrough, Delegate; Dr. Dan Moore, Alternate. Wayne County—Dr. Harold Cline, Delegate; Dr. B. M. McLain, Alternate. Ripley County—Gene Leroux, Delegate; Dr. T. Eugene Ruff, Alternate.

There were general discussions of the current immunization procedures, other health aspects, the visiting nurse program and the recently-expanded facilities of the Butler County Health Center. A need for more information was voiced. It was voted unanimously to instruct the Society secretary to request the Butler County Health Center to forward a yearly copy of the Annual Report to the Society for their information and, also, to submit a copy of the yearly report for the past five years for review and filing with the minutes.

Members of the Butler-Wayne-Ripley County Medical Society pause after their dinner meeting to pose for "photographer" Don Brummall and MISSOURI MEDICINE.

Inquiry was made concerning organization and operation of the Regional Diagnostic Clinics for Mental Retardation. Mr. Don Brummall, MSMA Executive Assistant, discussed this statewide program and will send literature concerning their organization, staffing, questions and answers.

The program for the evening was presented by Mr. Brummall who discussed activities of the MSMA State Office, the need for individual physicians and medical societies to participate in organized medicine's activities and the new Public Law 89749, entitled "Comprehensive Community Health Planning." Mr. Brummall stressed the need for individual medical societies to present their needs and collective thinking to the State Society in the form of resolutions and other media.

A general discussion followed.

ERNEST M. TAPP, M.D., *Secretary Pro Tem*

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society met on January 15 in Kennett.

The program and business meeting followed a dinner. Mr. Don Brummall, Executive Assistant from the MSMA State Office in Jefferson City, talked briefly about recent activities of the MSMA.

A "fringe benefit" of county medical society meetings is the opportunity to get together to compare notes and visit. These physicians at the Dunklin County Medical Society meeting appear to be pondering a serious subject.

Following the business session, the meeting was adjourned.

QUINTON TARVER, M.D., *Secretary*

MINERAL AREA MEDICAL SOCIETY

The Mineral Area Medical Society met on January 25 with the following members present: Drs. C. H. Appleberry, Charles E. Carleton, Charles W. Chastain, F. Richard Crouch, W. Paul Dennis, Norma Dunning Farmer, William Ford, Jack L. Foster, Marvin Grossman, Emmett F. Hoctor, Robert A. Huckstep, John W. Hunt, Jr., Alvan G. Karraker, Jack Mullen, Van W. Taylor and Kirby L. Turner.

Guests at the meeting were Dr. Edward Mardini of Bonne Terre; Dr. Donnell; Dr. Rutledge of DeSoto; Mr. Ed S. Schanburg, a senior medical student at the University of Missouri; Dr. Vincent Lau; and Dr. Channabasappa. The latter two physicians have recently joined the staff of State Hospital No. 4.

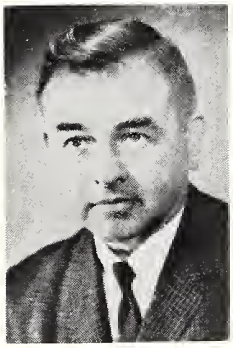
Dr. Robert Payne, Director of Medical Education at St. Luke's Hospital in St. Louis, was the speaker for the evening. His subject was "Treatment of Myocardial Infarction and Its Complications." It was the consensus of opinion of members present that Dr. Payne presented one of the best papers the Society had been fortunate to hear in a long time. In order to fur-

(Continued on page 232)

From the Medical Schools

ST. LOUIS UNIVERSITY

Dr. Eli Maurice Nadel has been appointed associate dean at the St. Louis University School of Medicine.



Dr. Eli Maurice Nadel

Dr. Nadel, who also holds the rank of professor of pathology, comes to St. Louis University from the Veterans Administration (Central Office) where he was Chief of Research in Pathology, Hematology and Laboratory Medicine. Also, he has held a variety of significant laboratory and administrative posts at the National Institutes of Health since 1946.

In addition to his posts with the Veterans Administration, Dr. Nadel simultaneously was active in research at Georgetown University Medical Center as clinical professor of research pathology and as visiting scientist at the Armed Forces Institute of Pathology.

Dr. Nadel is the author of more than 70 papers in experimental pathology. Much of his research has been devoted to the study of leukemia in animals.

Dr. Carmine J. Coscia, assistant professor of biochemistry, has been named the recipient of a research career development award by the National Institute of General Medical Sciences, one of the eight National Institutes of Health.

Dr. Coscia's principal research area is "sterochemical aspects of enzymatic reactions."

This fellowship was awarded to him in national competition and following review by two groups of distinguished consultants. It is part of a program to increase the number of full-time career opportunities for scientists of a superior potential and capability in the sciences related to health.

Dr. Maurice Green, professor and director, Institute for Molecular Virology, has been appointed a consultant to the National Cancer Institute of the National Institutes of Health in the newly established Solid Tumor-Virus Segment. He also has been named a member of the new Biophysics group of the Viral Carcinogenesis Branch of the National Cancer Institute.

The Seventh annual Caduceus Ball, sponsored by the Dames Club, wives of the medical students, was held on February 3, in the Chip and Plank Ballroom. Medical faculty and students attended the affair, profits of which go to a scholarship fund for a needy medical student. Mrs. Robert H. Felix, wife of Dean Felix, is advisor to the club.

Recent grants awarded the St. Louis University School of Medicine included a sum of $101,146 to Dr. Maurice Green, director of the Molecular Virology Institute for a study entitled "Biochemistry of Animal Virus Multiplication." The award was from the United States Public Health Services.

The Department of Pharmacology at the St. Louis University School of Medicine received three grants totaling $223,696 from the National Institutes of Health. All are for a three year period. Dr. Rene Wegria, professor and chairman of the department, is directing a research study on the causes and mechanisms of cardiac failure. This work is supported by an $80,249 award. He also is directing a research study on the determinants of lymph formation and evacuation under a $67,031 award.

A third investigation covering the effects of hormones on the synthesis of liver protein is under the direction of Dr. Yee S. Kim, assistant professor of pharmacology. It is supported by a $76,416 award.

The National Science Foundation has awarded the St. Louis University School of Medicine a $35,000 award for the support of research in the Edward A. Doisy Department of Biochemistry.

Principal investigator in the work is Dr. Anthony Martonosi, associate professor of biochemistry, who is engaged in studying the role of phospholipids in the ATPase activity of various membranes present in muscle fiber.

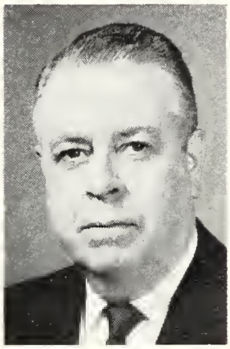
His research is concerned with the investigation of the mechanisms of muscular contraction and could shed light on some muscle diseases resulting from chemical defects in one of these membrane systems.

Several special lecturers visited the medical center during January. Dr. Eugene Braunwald, Clinical Director of the National Heart Institute, delivered the John Auer Lectureship entitled "Congestive Heart Failure: Physiologic and Clinical Considerations." The lecture was sponsored by the School of Medicine's Phi Beta Pi Fraternity.

Dr. Victor B. Buhler, associate clinical professor of pathology and oncology at the University of Kansas School of Medicine, delivered a lecture entitled "Bloodbanking in Russia." It was sponsored by the Greater St. Louis Society of Medical Technologists and hosted by St. Louis University. Sister Martin Mary, S.S.M., assistant professor of medical technology and chairman of the department, is program chairman for the society.

MISSOURI UNIVERSITY

William M. Hart, M.D., professor of surgery, has been appointed assistant dean for research development in the School of Medicine. He succeeds William D. Bryant, Ph.D., who now is working on Dr. Vernon Wilson's staff with the Missouri Regional Medical Program.


Dr. William M. Hart

Dr. Hart, appointed last March as professor of surgery and chief of the ophthalmology section, will continue with these clinical duties and spend half time in the administration of research and training grants which are under the supervision of the School of Medicine. In the latter capacity, he will share duties with Dr. Herbert S. Goldberg, who became an assistant dean last July.

After undergraduate work at Southeast Missouri State College, Dr. Hart received his M.S. degree at Iowa State University, his Ph.D. at Minnesota as a Mayo Foundation Fellow in Physiology, and his M.D. degree at Temple University. Before returning to Missouri, he was director of the Eye Research Foundation of Bethesda, Md.

Jacob O. Sines, Ph.D., professor of medical psychology and chief of the medical psychology section of the Department of Psychiatry, has been appointed a member of the Mental Health Services Research Review Committee of the National Institute of Mental Health for a four-year term, beginning July 1, 1968.

The committee is responsible for the review of applications for applied research grants in project areas such as mental health facilities and their services, treatment programs, personnel and staff services, services to special populations and mental health education. The committee makes recommendations on applications and policy considerations to the National Advisory Mental Health Council.

The University of Missouri School of Medicine has received a grant of $24,335 from the U. S. Public Health Service to expand its undergraduate training program in heart disease. The grant provides for increased facilities and full-time faculty especially trained in cardiovascular diseases. As a result of the grant, more medical students will be able to spend more of their elective time pursuing research in this specialty.

Dr. Donald W. Dickhaus, associate professor of medicine, will serve as director for the training program. Other faculty members who will participate in the training program in heart disease are Drs. Nathan C. Galloway, Rodney Patterson, William Soderstrom and Harry Stoekle.

A career development award has been made to Dr. Constantine S. Anast, associate professor of pediatrics, to enable him to spend more time in research.

The Department of Health, Education and Welfare has approved a $26,233 grant to the Medical Center for Dr. Anast who is studying a relatively new hormone, thyrocalcitonin, and parathyroid hormone to determine their influence on calcium and magnesium in the body. The technical title of his research is "Thyrocalcitonin and Parathyroid Hormones in Calcium and Magnesium Metabolism."

WASHINGTON UNIVERSITY

The John Phillips Memorial Award for distinguished contributions in medicine, the highest honor of the American College of Physicians, will be presented to Dr. Sol Sherry.

Dr. Sherry, an internationally known physician-researcher in thrombotic disease, served on the Washington University School of Medicine faculty from 1954 until December, 1967. He held the title of professor and co-head of the department of internal medicine.

On January 1, Dr. Sherry accepted the appointment as chairman of the department of medicine at Temple University School of Medicine in Philadelphia, Pa.

The only other St. Louisan to receive the Phillips Award was Dr. Leo Loeb, Washington University School of Medicine professor of pathology, who was honored in 1935 for his cancer research. The honor was established in 1932 as a memorial to Dr. Phillips, one of the early and

(Continued on page 232)

Medical Schools (Cont'd)

most enthusiastic Fellows of the College, who met a tragic death in a Cleveland Clinic disaster in 1929.

Dr. Sherry is prominent for his contributions in fibrinolysis and thrombolysis, and his research has brought new insight on heart attacks, strokes and pulmonary embolism.

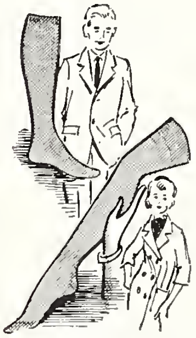
County Society News (Cont'd)

ther benefit those in attendance, Dr. Payne gave each member a seven page mimeographed copy of his outline of how to handle this condition. Dr. and Mrs. Payne attended the social hour following the meeting and their presence was appreciated by all present.

The Society cancelled its March meeting because of a conflict with the annual Missouri State Medical Association meeting.

The Society adjourned and met with members of the Woman's Auxiliary for a social hour and refreshments.

William Ford, M.D., *Secretary*



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In Memoriam

Alsup, Frederick F., M.D., Belen, New Mexico, a graduate of Washington University, 1915; member of Ozarks Medical Society; aged 81; died September 25, 1967.

McCunniff, William B., M.D., Kansas City, a graduate of Creighton University, 1943; member of Jackson County Medical Society; aged 47; died December 30, 1967.

Cowan, R. D., M.D., Aurora, a graduate of St. Louis University Medical School, 1918; member of Ozarks Medical Society; aged 84; died January 1, 1968.

Kimes, Ira David, M.D., Cameron, a graduate of Washington University, 1935; member of Clinton County Medical Society; aged 58; died January 2, 1968.

Leslie, James T., M.D., Louisville, Kentucky, a graduate of Barnes Medical College, 1904; member of Cole County Medical Society; aged 87; died January 2, 1968.

Horst, Otto C., M.D., Springfield, a graduate of Washington University, 1907; member of Greene County Medical Society; aged 81; died January 4, 1968.

Lemmon, George B., M.D., Springfield, a graduate of Washington University, 1907; member of Greene County Medical Society; aged 87; died January 8, 1968.

Ferguson, James T., M.D., Kansas City, a graduate of Kansas University, 1915; member of Jackson County Medical Society; aged 88; died January 13, 1968.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

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111 North Fourth St., St. Louis, Mo. 63102
(Eastern Missouri Administrators)

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114 W. 10th St., Kansas City, Mo. 64105
(Western Missouri Administrators)

Drs. Kendis, Pittman Win Page One Award

Dr. Joseph B. Kendis, chairman of the MSMA Committee on Alcoholism, and Dr. David J. Pittman were honored recently by the St. Louis Newspaper Guild who presented them with the 1967 Page One Civic Award for their leadership in a St. Louis program for treatment of alcoholism.

Selection of Drs. Kendis and Pittman was based on their studies and work on alcoholism and, particularly, their progress with the St. Louis Detoxification Center to which chronic police case alcoholics are referred, according to William R. Balota, president of the St. Louis Local 47 of the American Newspaper Guild AFL-CIO.

The St. Louis Newspaper Guild's Page One Civic Award was presented recently to Dr. Joseph B. Kendis, left, and Miss Laura E. Root of Washington University, who accepted for Dr. David J. Pittman. At right is William Balota, guild president. Both Dr. Kendis and Dr. Pittman were honored for their leadership in treatment of alcoholism.

—Photo courtesy of the *St. Louis Globe-Democrat*

Doctor Kendis, who has served as director of the Center, is a specialist in internal medicine and has had 25 years' experience in treating alcoholism. He is a faculty member of Washington University's department of psychiatry and a research associate of its Social Science Institute. He is a member of the Governor's Commission on Alcoholism.

Doctor Pittman is professor of sociology and director of Washington University's Social Science Institute. He was consultant for a Presidential Commission's task force on drunkenness which drew a major conclusion that detoxification centers such as the one in St. Louis should be set up.

The St. Louis Detoxification Center, the first in North America, went into operation on Nov. 2, 1966. Located at 1536 Papin Street, it is supported in part by a grant from the Law Enforcement Assistance Agency of the Department of Justice and is sponsored by the St. Louis Police Department and the Social Science Institute of Washington University.

Missouri Academy of Psychiatry Annual Meeting

The Missouri Academy of Psychiatry will hold its 3rd Annual Meeting in connection with the 110th Annual Session of the MSMA. Dr. Retus Osborn, III, president of the Academy, announces that a social hour and dinner will be held in Room 362 at the Muehlebach Towers in Kansas City on Friday, March 29. Activities will begin at 6:30 p.m.

The distinguished guest for this year's meeting will be Dr. Douglas Goldman, assistant clinical professor of psychiatry at the University of Cincinnati School of Medicine. Doctor Goldman also is scheduled to appear on the Saturday morning scientific program of the MSMA under the sponsorship of the Academy.

Physicians who are not members of the Academy of Psychiatry are welcome to attend the dinner meeting provided reservations have been made in advance. Arrangements should be made with James N. Haddock, M.D, 950 Francis Place, Clayton, Missouri 63105.

AHA Reports Increased Hospital Costs in 1967

Total hospital cost per patient day amounted to $55.82 in the hospital reporting year ending Sept. 30, 1967, or a 14.3% increase ($6.99) over the previous year, according to figures released in *Hospital Indicators*, a monthly report which appears in *HOSPITALS, Journal of the American Hospital Association.*

In March of 1967, the American Hospital Association prepared testimony for the House Ways and Means Committee on the Social Security Amendments bill affecting Medicare, and, at that time, AHA made a projection of hospital costs through Sept. 30, 1967 which placed hospital

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costs per patient day at $57.93, an increase of 18.6% over the previous reporting year.

After all the figures were collected for the 1967 reporting year, the increase amounted to 14.3% instead of the 18.6%. Edwin L. Crosby, M.D., director of the AHA, said that one of the major factors in the projection involved anticipated salary increases. "As it turned out, the salary increases from March through September were slightly less than we anticipated and, therefore, our projection was on the high side," Doctor Crosby said.

"There are strong indications that the increase in hospital costs for this next year will be close to 15% because of the continuing wave of salary increments for hospital personnel and the general increases in the cost of living," Doctor Crosby added.

Professional Courtesy

(Adopted by A.M.A. Judicial Council)

The custom of professional courtesy embodies the ancient tradition of fraternalism among physicians in the art which they share, and their mutual concern to apply their learning for the benefit of one another as well as their patients. The Judicial Council reaffirms and endorses the principle of professional courtesy as a noble tradition that is adaptable to the changing scene of medical practice.

Professional courtesy is not a rule of conduct that is to be enforced under threat of penalty of any kind. It is the individual responsibility of the physician to determine for himself and within his own conscience to whom and the extent to which he shall allow a discount from his usual and customary fees for the professional services he renders, and to whom he shall render such services without charge as professional courtesy.

The following guidelines are offered as suggestions to aid physicians in resolving questions related to professional courtesy.

1. Where professional courtesy is offered by a physician but the recipient of services insists upon payment, the physician need not be embarrassed to accept a fee for his services.

2. Professional courtesy is a tradition that applies solely to the relationship that exists among physicians. If a physician or his dependents have insurance providing benefits for medical or surgical care, a physician who renders such service may accept the insurance benefits without violating the traditional ethical practice of physicians caring for the medical needs of colleagues and their dependents without charge.

3. In the situation where a physician is called upon to render services to other physicians or their immediate families with such frequency as to involve a significant proportion of his professional time, or in cases of long-term extended treatment, fees may be charged on an adjusted basis so as not to impose an unreasonable burden upon the physician rendering services.

4. Professional courtesy should always be extended without qualification to the physician in financial hardship, and members of his immediate family who are dependent upon him.

A Year of Better Health Ahead

We can look forward to a year of better health in 1968, suggests the American Medical Association.

During 1967, medical progress was made which will help ensure that each of us has a longer, more comfortable life.

There were new developments in artificial and transplanted internal organs—including the startling success of a heart transplant by a South African surgeon who received part of his training in this country.

There was some success in vaccine development and hints of new biochemical weapons against viral diseases; continued follow-up of promising leads in the mystery of cancer; the opening of five new U. S. medical schools; and a Nobel Prize in medicine or physiology for two American scientists.

An anti-measles campaign by the American Medical Association and the U. S. Public Health Service has been so successful that fewer measles cases were reported during the first half of 1967 than in any comparable period since measles record-keeping began in 1912.

Licensure of a mumps vaccine is expected in the near future. A vaccine against German measles (rubella) may be generally available within two years. A vaccine to prevent erythroblastosis fetalis (Rh disease) also may be licensed in 1968.

Unfortunately, there are health danger signals, too. The public health struggle with venereal disease is far from won—gonorrhea is more prevalent in the U. S. now than at any time in the last 20 years. Greater public awareness and prompt treatment of VD is needed.

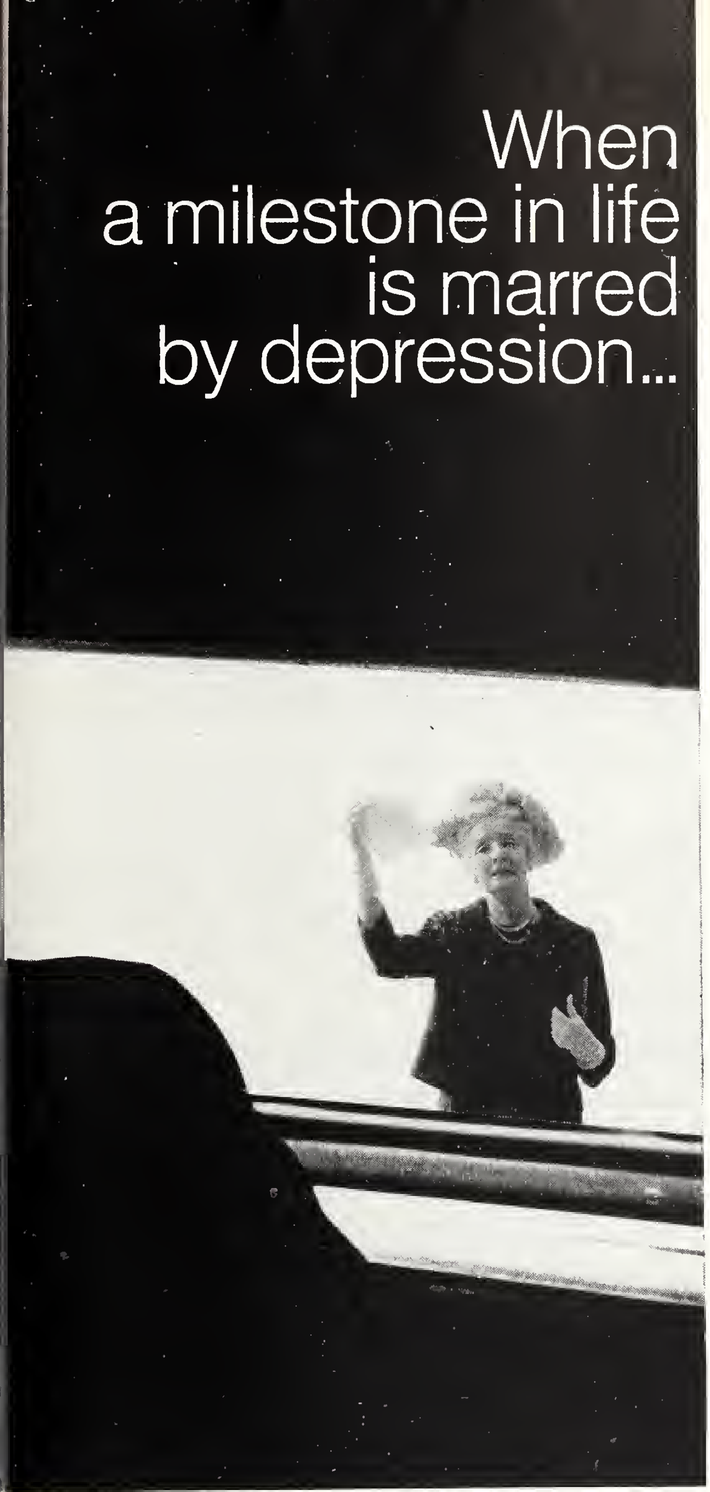
Heart disease, chronic non-tuberculous lung disease, alcoholism and drug abuse continue to be outstanding U. S. public health problems. Cancer takes far too many lives.

As the AMA points out, we are nowhere near the end of the road to perfect health. Medicine makes no promises that we will ever get there—certainly not in the near future.

But our prospects continue to improve for a rich, full life and a meaningful old age. One of the people we have to thank for this is the American physician.

Indications: Tofrānil is recommended for the treatment of depressive states of diverse psychopathology.
Contraindications: The concomitant use of Tofrānil and monoamine oxidase inhibiting (M.A.O.I.) compounds is contraindicated. Hyperpyretic crises or severe convulsive seizures may occur. Potentiation of adverse effects can be serious or even fatal. An interval of at least 7 days after M.A.O.I. therapy has been discontinued should be allowed before Tofrānil may be substituted. Initial Tofrānil dosage should be low, increases should be gradual, and the patient's progress should be carefully observed.
Warning: Clinical reports have suggested that there may be a risk of teratogenesis associated with the use of this compound during the first trimester of pregnancy. Unless, in the opinion of the prescribing physician, the potential benefits outweigh the possible risks, Tofrānil should not be used during the first trimester of pregnancy.
Cardiovascular complications, including myocardial infarction and arrhythmias, have occasionally occurred in susceptible individuals. Patients with cardiovascular disease should be given the drug only under careful observation and in low dosage.
Precautions: Since suicide is always a possibility in severely depressed patients and one which may persist until significant remission occurs, such patients should be carefully supervised during early treatment with Tofrānil. Some severely depressed patients may also require hospitalization and/or concomitant electroconvulsive therapy.
Because of its anticholinergic effect, caution should be observed in prescribing Tofrānil for patients with increased intraocular pressure.

In rare instances, transient cardia
arrhythmias have occurred in hyp
thyroid patients and in patients re-
ceiving thyroid medication when
Tofrānil was added to the regimen
Imipramine may block the pharma
cologic activity of guanethidine ar
other related adrenergic neuron-
blocking agents.
The drug is not recommended at t
present time in patients under 12
of age.
Adverse Reactions: Dryness of the
mouth, tachycardia, constipation,
turbances of accommodation, swe
ing, dizziness, weight gain, urinar
frequency or retention, nausea an
vomiting, peripheral neuritis, mild
parkinson-like syndrome, tremors,
rare cases of falling in elderly pa-
tients, confusional states (with su
symptoms as hallucinations and d
orientation), activation of psychos
schizophrenics and agitation (incl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Often in the mind of the lonely, widowed, depression-prone individual, she's not gaining a daughter...she's losing a son. The occasion may be marred by such symptoms of depression as feelings of sadness, incapacity, helplessness and hopelessness.

In about 3 out of 4 cases, Tofrānil relieves symptoms of primary depression.

As maintenance therapy in primary depressive illness, it helps prevent relapse.

Although toxic reactions severe enough to require discontinuation of Tofrānil are uncommon, in patients with cardiovascular disease, thyroid disorders, increased intraocular pressure, or in those receiving anticholinergics (including antiparkinsonism agents), the special precautions listed in the Prescribing Information should be carefully observed. The use of Tofrānil in patients receiving M.A.O.I.'s is contraindicated.

Tofrānil® imipramine hydrochloride
Geigy

pomanic and manic episodes) may require dosage reduction r addition of a tranquilizer or rary discontinuation of the drug, tiform seizures, orthostatic ension and substantial blood ure fall in hypertensive patients, ra, transient jaundice, bone marpression including agranulocysensitization and skin rash ing photosensitization, eosino- and mild withdrawal symptoms dden discontinuation after pro- d treatment with high doses. ional hormonal effects (imce, decreased libido, and estroeffects) may be observed. ne-like effects may be more unced (e.g. paralytic ileus) in ptible patients and in those anticholinergic agents (includtiparkinsonism drugs). *tient Adult Dosage:* Initially, daily, increased, if necessary, to 150 or 200 mg. Maintenance dosage may be lower, 50 to 150 mg. daily, if possible.

Geriatric and Adolescent Dosage: Initially, 30 or 40 mg. daily, which may be increased according to response and tolerance. It is usually unnecessary to exceed 100 mg. daily.

A lag in therapeutic response, lasting from a few days to a few weeks, should be expected. When dosage recommendations are already being followed, increasing the dosage does not normally shorten this latency period and may increase the incidence of adverse reactions.

Availability: Tofrānil: Round tablets of 25 and 50 mg.; triangular tablets of 10 mg. for geriatric and adolescent use; and ampuls, each containing 25 mg. in 2 cc. for I.M. administration.
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For complete details, please refer to the full Prescribing Information.

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Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
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Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Northwest Missouri Medical Society—second Tuesday of each month.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday of each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.
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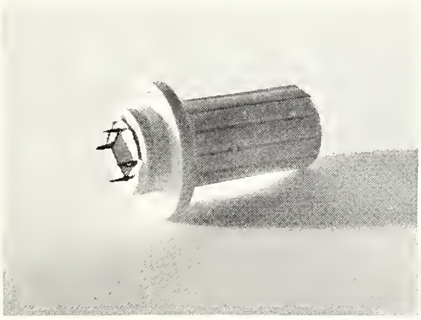

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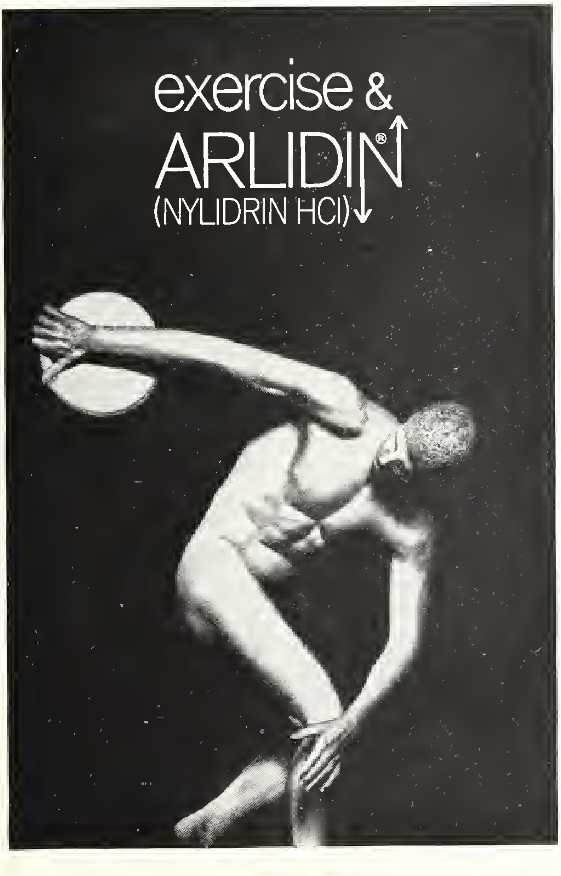

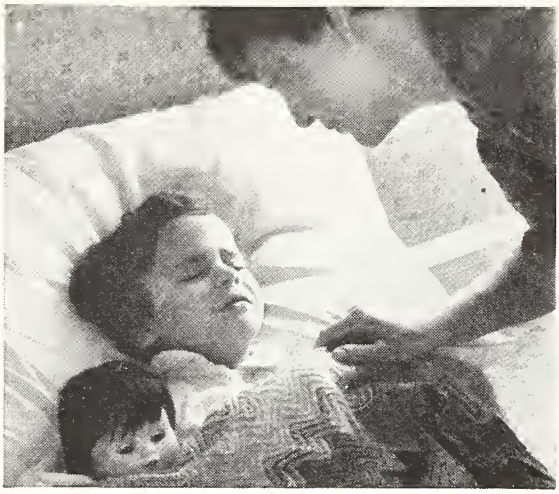

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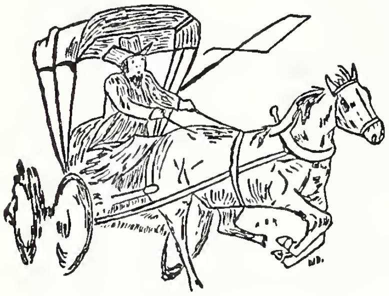
Missouri Medicine in Review



FORTY YEARS AGO

Relief from one of the worst nuisances in a physician's mail (and the average doctor's mail contains much to annoy him) is promised in a bill introduced in Congress by Rep. Watson of Pennsylvania which would set maximum penalties for sending unsolicited merchandise through the mail for the purpose of sale.

Plans for the addition of a $110,000 nurses' building and a $15,000 school building to the Shriners' Hospital for Crippled Children in St. Louis were submitted to the National Governing Board of Shriners' Hospitals at its February quarterly meeting in St. Louis.

A department for the treatment of cancer by deep x-ray therapy is to be established at St. Luke's Hospital, St. Louis, with the $25,000 given by Seeley Mudd and Harvey Mudd II in memory of their father, Seeley Mudd of California.

The Kansas City Alumni Chapter of Phi Beta Pi medical fraternity will hold its Founders' Day dinner-dance at the President Hotel in Kansas City on March 10. Dr. Lawson G. Lowrey, New York City, Supreme Secretary, will be present. The price of the dinner dance is $3.00 to members of the Alumni, but a special price of $2.50 is being made to hospital interns and members of the active chapter.

TWENTY-FIVE YEARS AGO

The Missouri State Board of Health reports that 12 physicians were licensed to practice in Missouri following examinations held on October 15-17. One applicant failed to pass the examination.

The Missouri State Medical Association will convene for its 86th Annual Session in St. Louis on April 18, 19 and 20 at the Jefferson Hotel. While the session will cover parts of three days, it will be only two days in length.

A single application of a new physical form of sulfonamide drugs in the treatment of impetigo contagiosa, a pus producing skin infection caused by staphylococci, has been found to cure the condition within a day and to stop the spread of the disease according to the experience with this method by T. N. Harris, M.D., Philadelphia. *The Journal* of the AMA made this report on February 6. In the present study, a 20% suspension of microcrystalline sulfathiazole was used.

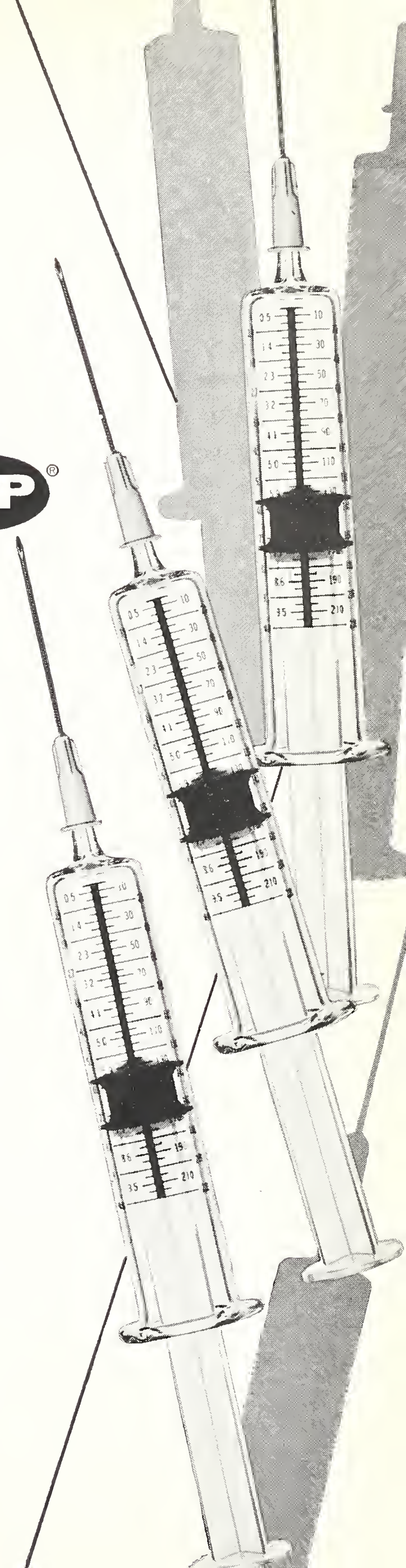
TEN YEARS AGO

Friends of Dr. Ferdinand C. Helwig honored his 35-year career as a pathologist in the Kansas City area at a dinner on January 5 at the Hotel President. More than 400 persons attended. Dr. Helwig, who has spent most of his career at St. Luke's Hospital, started at a time when few hospitals in the Kansas City area had a full-time pathologist.

Merrill R. Bay, M.D., Blue Springs, was installed as president of the Independence Hospital medical staff. Other officers for 1958 are Drs. Otto H. Elser, president-elect; Paul Bachmann, secretary-treasurer; S. J. Kranson, medical department head; and Wallace R. Stacey, surgical head.

W. P. Birney, M.D., Hannibal, recently was honored with a banquet in recognition of his 52 years as a practicing physician. Arrangements were made by the Marion-Ralls-Shelby County Medical Society with Dr. G. A. Hornback as chairman and toastmaster. Dr. J. H. Walterscheid, acting president of the Society, presented Dr. Birney with a gift from the group.

Members of the newly-elected medical staff at St. Francis Hospital in Washington are Drs. M. S. Wepprich, Washington, president; G. M. Workman, Hermann, vice-president; and B. G. Strehlman, Union, secretary-treasurer.



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April 17-18	**14th Seminar in Urology** Continuing Education, M.U. School of Medicine Kansas City
April 18	**American Association for the History of Medicine** Hosts: Washington U. School of Medicine and Department of History Chase-Park Plaza Hotel, St. Louis
April 22-26	**Workshop in Pediatric Radiology** Continuing Education, M.U. School of Medicine Kansas City
May 3-4	**Symposium—"Clinical Aspects of the Pulmonary Circulation"** Missouri Heart Association Plaza Inn, Kansas City
May 9-10	**13th Spring Clinical Conference, Drug Therapy** Continuing Education, M.U. School of Medicine Medical Center, Columbia
May 16	**19th Annual Dr. F. G. Thompson, Sr., Lectureship** **"The Continuing Evolution of the Education of the Practitioner"** Thompson, Brumm & Knepper Clinic 902 Edmond St., St. Joseph
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The University of Missouri Medical Center

A Review

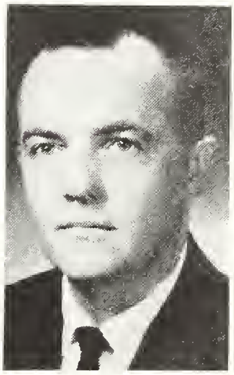
WILLIAM D. MAYER, M.D., ***Dean and Director***

On July 1, 1967, I returned from a 16-month leave of absence at the National Institutes of Health to assume the responsibilities of the Dean of the School of Medicine and Director of the University Medical Center. In so doing, I now occupy the positions so capably filled by Vernon E. Wilson, M.D., since 1959. Doctor Wilson, who led the Medical Center during the major portion of its first decade of significant growth and development, has now assumed even broader responsibilities as the Executive Director of Health Affairs. As one looks back over the past decade and attempts to project the second decade of growth and development of the Medical Center, it is comforting to review the significant achievements of the past and discomforting to consider the demands of the future.

Three related forces came together in March, 1968, which have significant implications to the University of Missouri Medical Center in its second decade of development. These are: (1) the evolution of the schools of medicine of this country into university medical centers, (2) the growing societal demands on the health care system and, specifically, the university medical centers and (3) the unique strengths and potential capabilities of the Columbia Campus of the University of Missouri in the biomedical and biological sciences.

Evolution of the University Medical Center

In the two decades since the end of World War II, an interesting evolution (occasionally bordering on revolution) has occurred in the schools of medicine of this nation. This has been their development into university medical centers with numerous but related educational, research and service programs. We will not detail all of the forces in the evolution nor even describe the 20-year transition. It is critical to any understanding of any modern school of medicine, however, to know that it is only one part (albeit the most important part) of a complex array of related buildings and programs that comprise a university medical center. Educational functions include responsibilities to: medical students, nursing students, graduate students, interns and residents in the various specialities of medicine; continuing education programs for all the health professions; and, finally, in-service training programs for various health workers at a subbaccalaureate level, e.g., licensed practical nurses, psychiatric technicians, operating room technicians, etc.


Dr. Mayer

Common to and needed by all of these educational functions is the laboratory in which their educational process is carried out—the university hospital and affiliated institutions. One cannot learn about health care without participating in health care. However, once the responsibility of health care is assumed, it must be assumed on a 24-hour day, seven-day week, 52-week year. This "teaching-learning laboratory" is a demanding mistress which necessitates commitments that go far above and beyond all other known teaching laboratories and, indeed, beyond those needed for strictly educational purposes alone. Yet one is caught on the horns of a dilemma; without the laboratory, no education—with the laboratory, a total commitment to high quality service.

The third related component of the triad of the university medical center is its research function. In this era of rapid advance in the frontiers of scientific medical knowledge, one cannot provide either the quality of education or the quality of patient care that the nation has come to expect of university medical centers without the intimate and active involvement of the faculty and staff of the medical center in research activities. The latest advances in modern medicine are taught to students only by a faculty involved

A nighttime "skyline" view of the University of Missouri Medical Center.

in creating the latest advances. The newest advances in modern medicine are provided to patients by a staff involved in making those advances possible. Thus, research has joined education and service as an integral part of the university medical center.

With the development of the university medical center concept have come other responsibilities. There are now obligations to be supportive of health facilities in the environs of the medical center. The decision of the Veterans Administration and the Division of Mental Diseases of the State to build their facilities immediately adjacent to our Medical Center are but two local examples of a national trend. While these facilities add to the total constellation of the Medical Center, they also add to the complexities and the demands placed upon it.

The University of Missouri Medical Center, in its first decade with its multiple educational functions, its University Hospital and affiliated institutions (Mid-Missouri Mental Health Center, Veterans Administration Hospital, Kansas City General Hospital, Children's Mercy Hospital, Missouri Institute of Psychiatry, Missouri Baptist Hospital, Ellis Fischel State Cancer Hospital, Blosser Home, Woodhaven Home) and its strong and growing research activity, has come into being in the tradition of the modern university medical center.

Health Care Demands of Society

The second force having significant impact upon us in the next decade is the increasing societal concern with health affairs. Again, these are too complex to detail here. Let it simply be said that the actions of the 89th Congress of the United States in the passage of Medicare, Medicaid and Regional Medical Program legislation are sufficient evidence of the concerns for both higher quantity and higher quality health care for the people of this nation. These concerns are further expressed in the area of biomedical research, where in the two decades between 1947 and 1967 the annual budget of the National Institutes of Health has gone from $8.3 million to $1.2 billion. These concerns have stressed and will continue to stress to an increasing degree the entire health care system. A significant impact of these national stresses will be felt over the next decade by the university medical center. The university medical centers will be the major sources (indeed, the only sources in many health fields) for producing the health manpower to meet these demands. The university medical centers are a major source of talent for the design of new methods in the delivery of health care. University medical centers are the source of the application of the newest technologies to the care of the individual patient. And university medical centers are the major source for the basic research, upon which a significant component of the future of the health care of this nation now rests. It is no longer a question of will the university medical centers respond to these pressures, but how well.

Uniqueness of the University of Missouri—Columbia

This brings us to the third factor influencing the next decade of the University of Missouri Medical Center—the unique strengths and capabilities of the Columbia Campus in the biomedical and biological sciences. It has been said by a distinguished government official that the future in medicine belongs to those university medical centers which are on holistic university campuses. This statement was made because a university medical center in isolation, as great and complex as it may be, does not possess (and in the future can never possess) all of the competencies to respond to society's ever-increasing demands. When one looks at the spectrum ranging from the sociologic and economic demands on one side to the needs for research in the test tube synthesis of DNA on the other, the wisdom of this statement should become obvious.

To our knowledge, no institution in the nation has the unique constellation of superb relationships we have with the groups involved in health (The Missouri State Medical Association, The Division of Health, the Division of Mental Diseases, etc.) on one hand, and the magnificent resources of a complete university which are needed (School of Veterinary Medicine, College of Engineering, College of Education, College of Arts and Science, School of Journalism, School of Social Work, College of Agriculture, School of Business and Public Administration, Extension Division, etc.) on the other. There are already joint appointments and joint activities by our School of Medicine faculty with all of these mentioned schools and colleges.

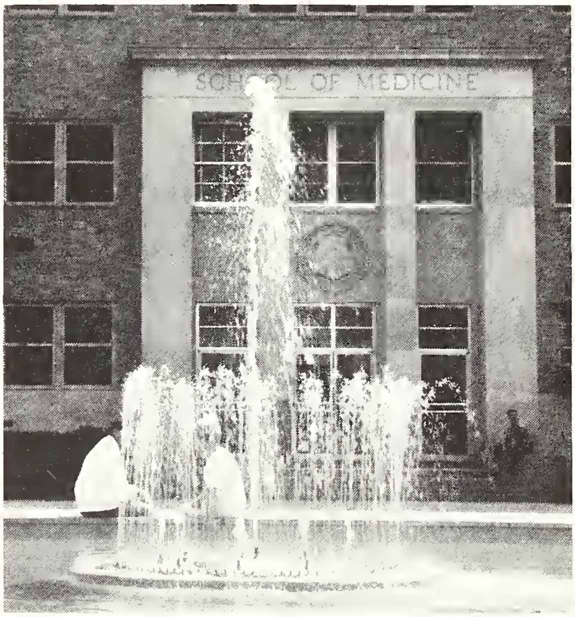
Not only are there elements present for greatness on this campus in the next decade, but important beginnings have been made. Programmatic symbiosis has occurred between the Medical Center and the development of the Environmental Health Center and the Space Sciences Center with its emphasis in environmental physiology. Without the Medical Center, it is doubtful that these programs would have been developed. With the Medical Center, they have developed with real benefit to the entire University. The proposed programs in Bioengineering and Comparative Pathology are but two more immediate examples of ways by which our unique opportunities can be further realized to the advantage not only of the University of Missouri and the State of Missouri, but to the nation at large.

The University of Missouri Medical Center has in its early years passed through its infancy and into adolescence. It is in a position to move through late adolescence and early adulthood with the knowledge that its early years have prepared it well to meet the challenges of the future. Indeed, I know of no other school of medicine or medical center of the same age which is so uniquely qualified to face the rigorous demands which lie ahead for all medical centers and all individuals and organizations in the health field. The challenges are and shall continue to be real, but if they are met head on by all who are involved in health in the State of Missouri, they can be met in a fashion which serves as a model for the nation at large. The University of Missouri Medical Center will make every effort in the years ahead to contribute meaningfully to the health needs of the citizens of this state. If we fall short of people's expectations of us, it will, I assure you, not be because we have not tried.

1967-1968, A Brief Review

The rate of growth of the Medical Center became clearly apparent to me in July of 1967 when I returned to find an institution that had grown far beyond the one I had left 16 months before. No less impressive have been the activities since July 1, which are reviewed below.

On July 23, 1967, construction was commenced on the Veterans Administration Hospital immediately across Stadium Road from the University Hospital. This 480-bed unit will be all-weather connected to the Medical Center via an underground tunnel. It is currently antici-



A sparkling fountain graces the entrance of the University of Missouri School of Medicine.

pated that it will be completed in the spring of 1970 and will become an integral part of the Medical Center activities.

Throughout the summer, fall and early winter, the Mid-Missouri Mental Health Center has been moving toward full activation of its 125 acute psychiatric care beds. This unit attached to the west end of the University Hospital has proved to be a superb example of the advantages of close cooperation between two state agencies—the University and the Division of Mental Diseases. It is able to provide high quality psychiatric care to the 52-county catchment area in Mid-Missouri, while providing an opportunity for the training of medical students and residents in psychiatry for the State.

On Feb. 1, 1968, McHaney Hall, which had served as a nursing student dormitory since the opening of the Center, was vacated when additional dormitory space became available in the environs of the Medical Center. This unit, which is attached by an underground tunnel to the east side of the University Hospital, is now being converted for additional hospital beds and a focus for rehabilitation services.

Construction on the addition to the Medical Sciences Building has continued and we anticipate completion by September of this year. This unit, which houses the new multidisciplinary laboratories for the first and second year medical students, will enable us to increase our class size to 100 medical students this fall. It also will permit new approaches to medical student education in the basic sciences as each class will be divided into 16 student units. We are in the process of reviewing potential applications of newer developments in educational technology (television, computer-assisted instruction, programmed learning, 8mm single concept movies, audiotapes, etc.) to these units. In addition, the Education Committee of the School of Medicine is looking at the implications of the new laboratories and the new technologies to the curriculum of the first two years.

This past year brought site visitors to review our applications for federal funding of a new $5.2 million Outpatient Clinic and $1.8 million addition to the School of Nursing. Both grants have been approved by the respective National Advisory Councils and now await funding from both the federal and state governments. Our outpatient activity has now outstripped the original quarters designed for it and the new Clinic will be necessary to meet the needed demands of the increased medical school class size. The nursing school addition will permit a significant expansion in the nursing student body to help meet the critical needs of this acute health professional shortage area.

The research activities of the Medical Center and its affiliates have continued to increase significantly. A very real part of the growth has been the rapid expansion of the Missouri Regional Medical Program under Doctor Wilson's leadership. This program, one of the first four established in the country, continues to be the front runner in the nation. There are now 17 projects under way, distributed throughout the state, and the Advisory Council chaired by Mr. Nathan Stark of Kansas City is making plans for further orderly and logical expansion.

Obviously, it is impossible in a few words to outline the growth and development of the past year or the past ten years, let alone outline the future. It can be said, however, that with the real help and assistance of the physicians and citizens of the state, the University of Missouri Medical Center has come of age. With your continued advice, counsel and support, we fervently believe it can become one of the truly great medical centers of the country and, as such, can even better serve the purpose to which we are all dedicated—the health needs of the citizens of the State of Missouri.

EDITOR'S NOTE: The April issue of *Missouri Medicine* was printed before the 1968 Annual Session of MSMA and the election of new Association officers. For that reason, the masthead page still carries the names of the 1967-1968 officers. New listings will be published in the May issue.

Annual Spring Symposium Scheduled for May 5

A symposium on "Clinical Emergencies" will be held on May 5 at the Chase-Park Plaza Hotel in St. Louis. Co-sponsors of the event will be the St. Louis Academy of General Practice, St. Louis Medical Society, St. Louis County Medical Society and St. Louis University School of Medicine with the cooperation of Geigy Pharmaceuticals.

Dr. Robert Felix, dean of St. Louis University School of Medicine, will serve as program chairman. Outstanding experts in their fields will discuss the following subjects: "Facts Versus Fallacies in the Management of Cardiac Arrythmias," "Pain Patterns of the Abdomen: A Paradox in Diagnosis," "The Adolescent in Turmoil: A Search for Identity" and "Legal Implications of Emergency Care." Following the evening banquet, a renowned speaker will talk on "Psychedelic Drugs: Facts, Frauds and Fantasies."

The symposium has been developed to present recent advances in diagnosis and treatment and to reassess the time-honored approaches to the management of challenging clinical emergencies. Because of their growing influence on the physician's personal security, newly-defined legal considerations involved in emergencies and related problems also will be explored.

The scientific sessions are open to all physicians and their colleagues in closely allied disciplines. Members of the legal profession whose paramedical involvement concerns the subjects of the symposium are cordially invited to attend. The scientific sessions will be followed by a dinner.

There will be a special afternoon program for the ladies. Mrs. Marlin Perkins, who accompanies her husband on his travels to many parts of the world, will tell of her many interesting experiences and will illustrate her talk with slides. Mrs. Elinor M. Coyle, another author and lecturer of note, will give an illustrated talk entitled "Meet Me in St. Louis."

Complete programs will be mailed to all physicians in the St. Louis and surrounding area with reservation requests for tickets for the scientific program, the ladies' session and the evening reception and banquet.

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To stop the runs
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...soothes colicky pain with paregoric
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Paregoric (equivalent).........(1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin .... (2½ grains) 162 mg.
Kaolin (specially purified)....(85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

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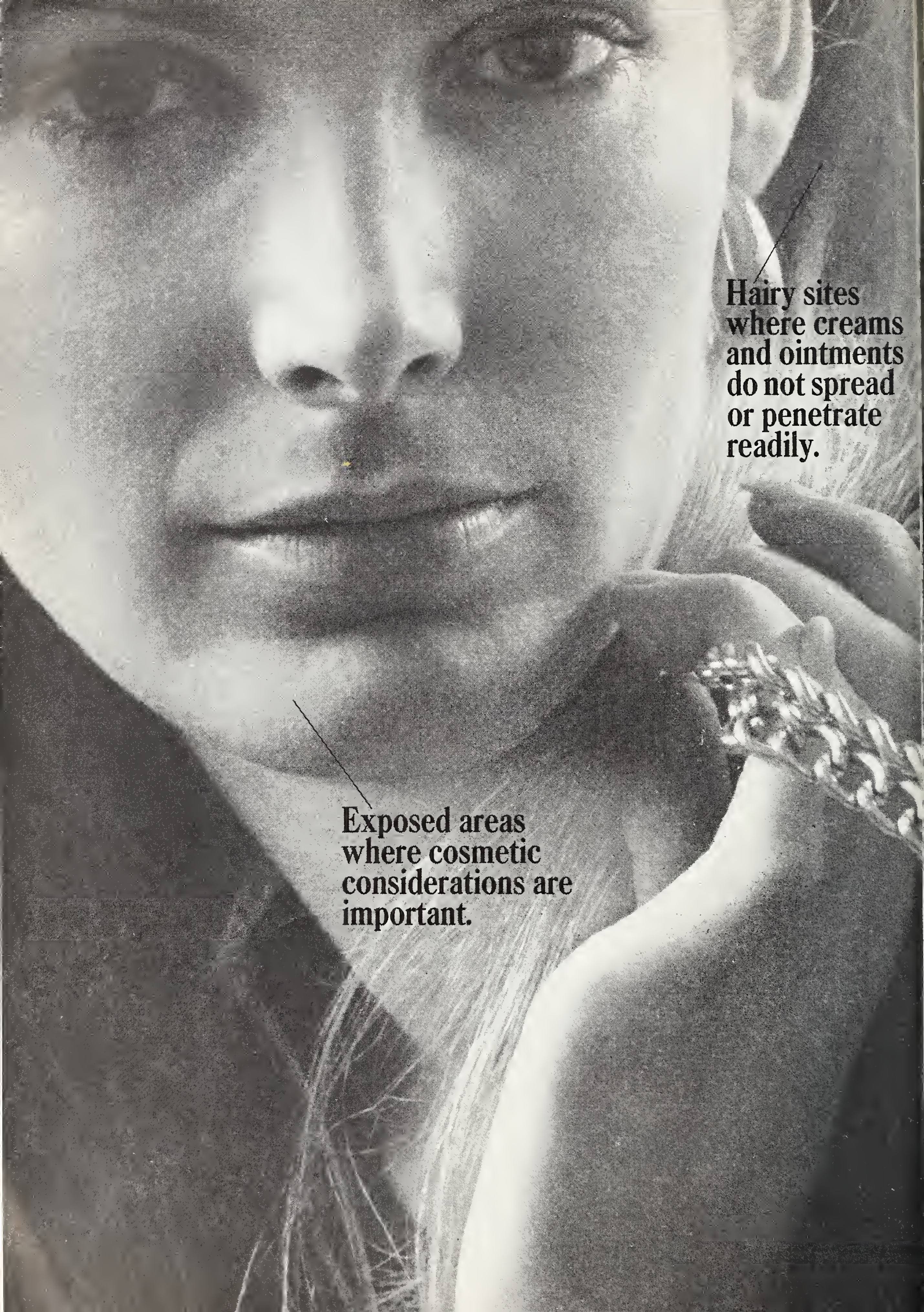
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Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components.

Precautions: In some patients with dry lesions, the solution may increase dryness, scaling, or itching. Application to denuded or fissured areas, such as genital or perianal sites, may produce a burning or stinging sensation. If this persists and dermatitis does not improve, discontinue medication. Although propylene glycol has antiseptic activity, there should be careful initial evaluation and follow-up of infected sites. Incomplete response or exacerbation of lesions may be due to true infection, which requires susceptibility testing and appropriate therapy. On the other hand, saprophytic or low grade infections may clear spontaneously under the influence of Synalar Solution alone. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Side Effects: Side effects are not encountered ordinarily with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions.

Availability: Synalar (fluocinolone acetonide) Solution 0.01% in a propylene glycol vehicle with citric acid as preservative. 20 and 60 cc. plastic squeeze bottles. *Also available:* Synalar (fluocinolone acetonide) Cream 0.025% —5, 15 and 60 Gm. tubes and 425 Gm. jars. Cream 0.01%—15, 45 and 60 Gm. tubes and 120 Gm. jars. Ointment 0.025%—15 and 60 Gm. tubes. Neo-Synalar® (neomycin sulfate 0.5% [0.35% neomycin base], fluocinolone acetonide 0.025%) Cream—5, 15 and 60 Gm. tubes.

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Notes of interest from Here .... and There

Dr. Oscar P. Hampton, Jr., St. Louis, has been reelected vice-chairman of the Council on National Security of the American Medical Association. Other members of MSMA who have received reappointments as members of AMA councils or committees are **Drs. Robert E. Shank,** St. Louis, Council on Foods and Nutrition; **Vernon E. Wilson,** Columbia, Committee on Continuing Medical Education; **Richard A. Sutter,** St. Louis, Council on Occupational Health; and **Wendell G. Scott,** St. Louis, Council on Voluntary Health Agencies. The **Rev. Thomas F. Zimmerman,** Springfield, has been reappointed a member of the AMA Committee on Medicine and Religion.

Dr. J. Lester Harwell has returned to Poplar Bluff to serve as chief of staff at the Poplar Bluff Veterans Administration Hospital. A native of that community, Doctor Harwell was associated with his father, the late **Dr. J. Lee Harwell,** as physician and surgeon for 20 years. He is the father of **Dr. J. Larry Harwell** of St. Louis. Doctor Harwell, a colonel in the U. S. Army Medical Reserve Corps, transferred to Poplar Bluff from the VA Hospital in Durham, N. C.

Dr. Jack Mullen has been elected staff president and head of the department of internal medicine by the medical staff of Bonne Terre Hospital. He will succeed **Dr. Van W. Taylor** who has held the post of staff president for many years. Other newly-elected officers are **Drs. J. L. Foster,** Desloge, staff vice-president and **Paul Dennis,** Flat River, staff secretary-treasurer.

Dr. Claude J. Allen of Rich Hill retired from active practice of medicine in February after 59 years of continuous service to that community. He is the father of **Dr. William H. Allen,** Nevada. This will be the first time in 103 years that the Rich Hill area will be without a Doctor Allen. The first was Doctor Claude Allen's great uncle, **Dr. Virgil Allen,** who began his practice in Rich Hill in 1865. He was followed in 1873 by Doctor Allen's father, the late **Dr. William H. Allen,** who also served as the first mayor of Rich Hill. It was Doctor Allen's wish that he could complete 100 years of service by a Doctor Allen to the people of Rich Hill. His wish has been fulfilled.

Dr. William V. McKnelly, Jefferson City, recently received a Certificate of Appreciation and a lapel button attesting to his 20 years of service to the Nation as an uncompensated member of the Selective Service System. The Certificate was presented to him by **Mr. William T. Ridenhour,** Linn, Chairman of Local Board No. 80.

Dr. James W. Crain, Branson, has left for Vietnam for a 60-day period of voluntary service in a civilian hospital. Doctor Crain has three sons in military service. One has completed a year in Vietnam, one is scheduled to leave for Vietnam soon and the third is stationed in Korea.

Dr. S. Lloyd Allen, Breen Hills, has filed as Republican candidate for the office of Platte County Coroner. A resident of Breen Hills for nine years, Doctor Allen previously served as acting county coroner in Union County, New Jersey.

Butiserpazide® lowers blood pressure so smoothly that patients are often untroubled by either the disease...or treatment

BUTISERPAZIDE provides not only the classic thiazide/reserpine formula; it supplements it with the mildly sedative effect of BUTISOL (butabarbital).

Clinical comparisons have shown that many patients respond to this treatment with (1) smooth, uniform lowering of blood pressure[1] ... at times *below* the levels attained with previous therapy[2]; (2) "striking" improvement in such symptoms as headache, nervousness, palpitation and dizziness[2]; plus (3) "...lowered incidence of drug side effects."[2]

And BUTISERPAZIDE offers an added advantage: the usual dosage is just 1 tablet once or twice daily. It is available in two strengths for dosage flexibility. Are there any hypertensives in *your* practice who might find life a little pleasanter on BUTISERPAZIDE?

Contraindications: Sensitivity to any component, porphyria, peptic ulcer, ulcerative colitis, mental depression, renal impairment or shutdown. **Warnings:** Consider the possibility of sensitivity reactions in patients with history of allergy or bronchial asthma. Coated potassium tablets, sometimes administered in conjunction with antihypertensive therapy, may be associated with small bowel lesions, which have led to obstruction, hemorrhage and perforation. Surgery has frequently been required and deaths have occurred. Such tablets should be used only when indicated and when adequate dietary supplementation is not practical. They should be discontinued immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occur. *Use in Pregnancy:* Exercise caution, since thiazides cross the placental barrier and may cause fetal or neonatal hyperbilirubinemia, thrombocytopenia or altered carbohydrate metabolism; adverse reactions seen in the adult may occur in the newborn. **Precautions:** *Butisol* (butabarbital)—Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. *Hydrochlorothiazide*—May induce electrolyte imbalance; when used with digitalis or one of its glycosides and in patients with severe hepatic insufficiency, cardiac arrhythmias or symptoms of impending hepatic coma may occur. Discontinue and institute appropriate countermeasures if prolonged use produces hypokalemia or (likely only with sodium restriction) hyponatremia and hypochloremic alkalosis. (Ammonium chloride, used to reverse hypochloremic alkalosis, is contraindicated in hepatic disease.) May produce elevated serum uric acid levels (and, infrequently, gout) or reduce glucose tolerance, altering insulin requirements in diabetics. *Reserpine*—Observe for signs or symptoms of peptic ulcer or ulcerative colitis. Discontinue at first sign of mental depression; keep in mind possibility of suicide. Exercise extreme caution in history of mental depression. May produce cardiac arrhythmias when used with digitalis and quinidine, or may precipitate biliary colic in patients with gallstones. Discontinue 1 to 2 weeks before surgery; inform the anesthetist in event of emergency surgery. Exercise caution in history of epilepsy. Discontinue 1 to 2 weeks before ECT. *General*—Reduce concomitant antihypertensives by at least 50%, and exercise caution in coronary artery disease. **Adverse Reactions:** Dizziness, drowsiness, weakness, nasal congestion, leg cramps, nausea, palpitation, superficial skin bruises, headache, dehydration, skin rash, "hangover," systemic disturbances, diarrhea, itching, vomiting, paresthesia, photosensitivity, pancreatitis, jaundice, xanthopsia, purpura, thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia, anorexia, gastric irritation, abdominal cramping, constipation, glycosuria, vertigo, cutaneous vasculitis, orthostatic hypotension (potentiated by alcohol, barbiturates, or narcotics), increased salivation and gastric secretion, increased intestinal motility, loose stools, angina-like syndrome, arrhythmias, bradycardia, flushing, hypotension, nervousness, paradoxical anxiety, rarely atypical Parkinsonian syndrome, central nervous system sensitization (manifested by dull sensorium, deafness, glaucoma, uveitis, optic atrophy), dryness of mouth, syncope, epistaxis, weight gain, and impotence or decreased libido. **Usual Adult Dosage:** BUTISERPAZIDE®-25 or BUTISERPAZIDE®-50: 1 tablet daily or b.i.d. *Before prescribing or administering, see package insert.* **References:** 1. Johnson, H. J., Jr.: Penna. M. J. **67**:35, 1964. 2. Coodley, E. L.: Curr. Ther. Res. 4:460, 1962.

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PRESTABS®* Tablets

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BUTISOL® (butabarbital) 30 mg.†; Hydrochlorothiazide 50 mg.; Reserpine 0.1 mg.

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*15 mg. of **Butisol** (butabarbital), plus the other ingredients, in outer layer; 15 mg. of **Butisol** (butabarbital) in a specially coated core for delayed release, to approximately equalize duration of action for all components.

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LEO E. BROWN
Assistant to Executive Vice-President
American Medical Association

State Medical Journals Help To Meet the Challenges of Today

Special Article

NEVER BEFORE IN THE HISTORY OF MAN has organized medicine been criticized so severely as today. The organized efforts to discredit medicine are well known and well financed. The end is not in sight. As a matter of fact, these attacks and innuendos of gross overcharging and incompetent service can be expected to increase as the financial pressures of Medicare and Medicaid become more acute.

State medical journals must enter this fray by devoting additional pages to informing the profession of these attacks and in providing them with facts to be used in discussions with their patients.

As key communicators in this struggle, state medical journals can become even more important to organized medicine.

Medical communications probably had its ancient origin in the cuneiform tablets of Sumeria, inscribed thousands of years before the code of Hammurabi. The medical writings inscribed on Egyptian papyri, contributions of the Persian priests, Hippocratic collection and the 400 authoritarian books of Galen probably started medicine off on what now has become the greatest plethora of medical information ever imposed on mankind.

It is estimated that there are some 4,000 medical journals published in the world today. The AMA library alone utilizes the resources of 2,200 medical journals and 40,000 books. And there are millions of pieces of direct mail bombarding the physicians from the pharmaceutical industry.

There is little wonder that the physician becomes frustrated and develops a feeling of resistance toward all forms of medical communications.

And in all of this melee of medical communications, where does the state medical journal fit into the physician's reading habits and of what importance are these journals to organized medicine?

In discussing the importance of state medical journals to organized medicine, I think it is fair to say that state medical journals constitute not only the traditional but the most accepted method of communicating with the total membership of a state medical association. It is an accepted fact that the strength of the American Medical Association is dependent on the vitality of its constituent state and county medical associations. The importance of the state medical journals to the American Medical Association is directly proportionate to the position of importance in which each journal is held by the physician receiving it.

State medical journals are important to the AMA and organized medicine in a variety of ways. First and foremost, they constitute a very important unifying factor within medicine. They serve as the primary communication medium between the state medical association and the individual physician. They provide each physician on a regular basis important information on the state association's scientific and socio-economic programs and activities. They keep the physician informed of the contributions being made by medicine and the problem areas which demand serious consideration. They provide a regular important link between the practicing physician and organized medicine. They keep him informed on local happenings within the family of physicians practicing within each respective state or geographic area.

State medical journals serve many more useful purposes insofar as organized medicine is concerned, but to be more direct—how do state journals serve the American Medical Association?

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Here again they serve in direct proportion to the attitude of the editor insofar as his interpretation of the role his journal plays as a communication arm of organized medicine, including both the specialty medical society and the AMA.

State journals can and do help impress upon the physicians the leadership and services available through the AMA.

Together, we must meet the challenges of the times. But this can be done only if we have an informed profession dedicated to serve the best interests of each patient.

Social Security Seeks New Reimbursement Methods

Following the directive in the President's Health Message, Robert M. Ball, Commissioner of Social Security, announced the beginning of an experimental program to find methods of reimbursing hospitals and doctors that will have built-in incentives to efficiency and economy.

"The experiments," the Social Security Commissioner said, "are expected to develop ways to get more value for the dollar spent on health care and will be applicable in reimbursing hospitals and doctors under medicare and other Federal health programs." He added that the purpose of the experiments is to find methods of reimbursement that will provide incentives to efficiency and economy and, at the same time, maintain a high level of quality care. The Medicaid and maternal and child health programs financed by Federal-State expenditures, as well as the medicare program, will be involved in some of the experiments.

Participation in the experiments by hospitals and other health care institutions, by physicians and by organizations and associations will all be welcome, Commissioner Ball stated. Participation is entirely voluntary. Proposals will be evaluated by a panel of experts and the best selected for experimentation.

Participation by governmental organizations and by nongovernmental organizations, such as Blue Cross and Blue Shield plans, group practice prepayment plans, labor management plans, union clinics and private health insurance organizations which pay for health services as well as proposals from providers themselves will be advantageous, Commissioner Ball noted. The experiments that turn out favorably, he said, may benefit the entire health care system, private as well as governmental.

Under the medicare law, Commissioner Ball said, hospitals and other institutional providers of medicare services are reimbursed for their reasonable costs under a national reimbursement formula which provides guidelines as to which costs are allowable. The formula has been criticized on the ground that it provides no special incentives for economy and efficiency.

Reimbursement to physicians for services provided medicare beneficiaries is made by insurance carriers under Government contract on the basis of reasonable charges. Generally, the charge allowed is the customary charge of the physician as long as it is within the prevailing range of charges by other physicians in the locality.

The generally applicable reimbursement principles may be waived for the experimental projects, Ball pointed out, under authorization provided in the Social Security Amendments of 1967, signed into law by President Johnson on January 2.

He said that guidelines for the use of those who wish to submit proposals for medicare experimentation or experimentation involving medicare and the other Federal programs may be obtained by writing to Thomas M. Tierney, Director, Bureau of Health Insurance, Social Security Administration, Baltimore, Maryland 21235.

Guidelines for proposed experiments with methods of reimbursement that are primarily concerned with the medicaid and maternal and child health programs should be directed to the Social and Rehabilitation Service, 330 Independence Avenue, Washington, D. C. 20201.

"Keep Up" at the AMA Clinical Convention

Demands placed upon the American health care system have made the health services industry the nation's fastest growing employment field, American Medical Association President Milford O. Rouse, M.D., pointed out in a year-end report.

"Fifteen years ago, it was the fifth largest employer, now it is third," said Dr. Rouse. "If present trends continue, it will become the nation's No. 1 employer by the early 1970's."

Few physicians need instruction in the facts concerning increasing demand.

In addition to the growing claims upon him by patients, medical society, hospital, civic affairs and family, the physician faces his responsibility to himself to "keep up" with medical developments.

Once a year, the physician has an opportunity to spend the better part of a week doing nothing but "keeping up" at the world's largest medical meeting, the Annual Convention of the American Medical Association.

The 117th Annual Convention of the AMA will be held on June 16-20 this year in San Francisco. The Civic Auditorium, War Memorial Opera House and several nearby hotels will house the scientific program; the House of Delegates will meet in the Fairmont Hotel.

Approximately 600 scientific papers are to be presented, and more than 250 scientific exhibits will be on display as well as many industrial exhibits.

Among special presentations planned are four General Scientific Meetings on automobile accidents, health care planning, management of infectious diseases and treatment of advanced malignant disease.

Four General Scientific Sessions will be presented and the 23 Scientific Sections will offer programs individually, many holding joint meetings on subjects of common interest.

A full schedule of medical motion pictures is planned, as is a program of live color telecasting from a San Francisco-area medical center.

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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METHYCLOTHIAZIDE

ENDURONYL®

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg.

Indications: Edema and mild to moderate hypertension (Enduron), and mild to moderately severe hypertension (Enduronyl). More potent agents, if added, can be given at reduced dosage.

Contraindications: Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease or impending hepatic coma (hepatic coma due to hypokalemia has been reported in patients on thiazides). Do not use Enduronyl in severe mental depression, suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications—Moderate to severe hypertension.

Contraindications—Pheochromocytoma, paranoid schizophrenia, hyperthyroidism and advanced renal failure. Not recommended in malignant hypertension, children under 12, pregnant patients.

Do not use with: centrally or peripherally acting sympathomimetic drugs; foods high in tyramine (e.g., aged and natural cheeses); parenteral reserpine or guanethidine; imipramine, amitriptyline, desipramine, nortriptyline or their analogues; other monoamine oxidase inhibitors; methyldopa or dopamine; separate Eutron and these agents by two weeks.

Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease; impending hepatic coma from thiazide-induced hypokalemia.

Warnings—Patients: 1. No other drugs (particularly "cold preparations" and antihistamines), cheese or alcohol without physician's consent. 2. Promptly report orthostatic symptoms, severe headache, other unusual symptoms. 3. Angina pectoris or coronary artery disease patients must not increase physical activity with improved anginal symptoms or well-being.

Physicians: 1. Use antihistamines, hypnotics, sedatives, tranquilizers and narcotics (meperidine contraindicated) cautiously in reduced doses. 2. Stop Eutron two or more weeks before elective surgery; in emergency surgery reduce premedication (narcotics, sedatives, analgesics, etc.) to 1/4 to 1/5; carefully adjust anesthetic dosage to patient response. 3. Use cautiously in advanced renal failure. 4. Pargyline may induce hypoglycemia. 5. Consider possible sensitivity reactions when a history of allergy or asthma is present. 6. If potassium is indicated, dietary supplement is recommended; enteric-coated potassium tablets may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation frequently requiring surgery; discontinue medication immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs; Eutron does not contain added potassium. 7. Possible systemic lupus erythematosus has been reported for thiazides.

Precautions—Pargyline: Use cautiously at reduced dosage: caffeine, alcohol, antihistamines, barbiturates, chloral hydrate, other hypnotics, sedatives, tranquilizers, narcotics. Periodically do urinalyses, blood counts, liver function tests, etc. Use with caution in liver disease. Watch for orthostatic hypotension, especially in impaired circulation (e.g., angina pectoris, coronary artery disease, cerebral arteriosclerosis); also, augmented hypotension in concomitant febrile illnesses. Reduce or discontinue if hypotension is severe. In impaired renal function watch for cumulative drug effects, elevated BUN and other evidence of progressive renal failure; withdraw drug if these persist. In surgery increased central depressant response (hypotension and increased sedative effect) can be controlled by (1) discontinuing at least two weeks prior; (2) in emergency surgery lowering dose of premedication; (3) when necessary, administering a vasopressor. Do not use in hyperactive and hyperexcitable patients. Pargyline may unmask severe psychotic symptoms where emotional problems pre-exist. Use cautiously in Parkinsonism, especially with antiparkinsonian agents. In prolonged therapy, examine for change in color perception, visual fields, fundi and visual acuity. Also, prolonged therapy has made certain patients refractory to nerve blocking effects of local anesthetics.

Methyclothiazide: Use cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery thiazide may reduce vasopressor response and increase tubocurarine response. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia). Give supplemental chloride if hypochloremic alkalosis occurs and supplemental potassium if hypokalemia occurs (especially in digitalized patients). Thiazides may decrease serum P.B.I. without signs of thyroid disturbance.

Adverse Reactions — Pargyline: Orthostatic hypotension and associated symptoms, mild constipation, fluid retention, edema, dry mouth, sweating, increased appetite, arthralgia, nausea, vomiting, headache, insomnia, difficult in micturition, nightmares, impotence, delayed ejaculation, rash, purpura, weight gain, hyperexcitability, increased neuromuscular activity and other extrapyramidal symptoms. Drug fever is extremely rare. Reduction in blood sugar and hypoglycemic effects are possible. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Methyclothiazide: Blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, blood sugar or serum uric acid (gout may be induced); anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice and pancreatitis. Cutaneous vasculitis in elderly patients has been reported with other thiazides.

If side effects are severe or persist, reduce dosage or withdraw drug. 804438R

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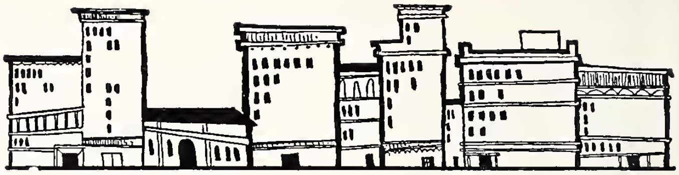
From the Medical Schools



ST. LOUIS UNIVERSITY

Dr. James B. Lee was named director of the Section of Experimental Medicine and associate director of the Section of Endocrinology in the St. Louis University Department of Internal Medicine effective March 1.

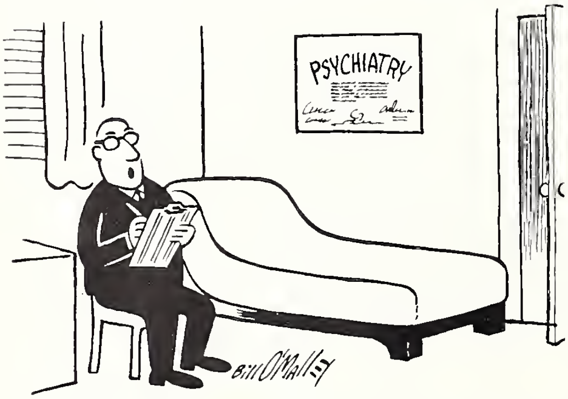
The newly developed section eventually will be headquartered in the Ralph A. Kinsella, Sr. Center for Experimental Medicine in the School of Medicine's research wing which is scheduled for completion in late spring. Dr. Thomas F. Frawley heads the School's department of Internal Medicine.

Dr. Lee

Dr. Lee also has been named to the rank of associate professor of internal medicine and holds the rank of attending physician at the St. Louis University Hospitals.

He is the former director of endocrinology and metabolic research at St. Vincent's Hospital at Worchester, Mass., and former member of the board of directors at St. Vincent Research Foundation. He was associate professor of medicine at Georgetown University Hospital in 1964.

Dr. Lee's research has been in the chemical identification of prostaglandins arising from kidney medulla. His work at the School of Medicine will involve establishing the precise role of prostaglandins in cardiovascular hemodynamics including their antihypertensive function in man.



"Now, tell me . . . where do you go on these 'trips'?"

Dr. Robert H. Felix, dean of the School of Medicine, recently spoke at the City of Hope Medical Center in a symposium sponsored by its Institute for Advanced Learning in the Medical Sciences. Dr. Felix joined Nobel Laureate Sir John C. Eccles of State University of New York, and Dr. Seymour S. Kelly, professor of psychiaatry at Harvard Medical School, in describing ghetto life as a chief cause of mental retardation.

Drs. Paul A. Young and John J. Taylor, department of anatomy, delivered a paper on "Electron Microscopy of Cerebellar Edema," before the 5th Symposium of the Louisiana Society for Electron Microscopy in New Orleans.

Dr. John J. Budd, Jr., assistant clinical professor of internal medicine, is the new president of the medical and dental staff of the St. Louis University Hospitals. Dr. Matthias J. Backer, Jr., assistant clinical professor of gynecology and obstetrics, is vice-president and Dr. John H. Gladney, senior instructor in otolaryngology, is secretary-treasurer.

A new grant of $150,000 from the National Heart Institute of the National Institutes of Health has been received by the School of Medicine. The award was given for a three-year period for an investigation to determine the Vitamin K requirement in adults.

Director of the new study is Dr. Edward A. Doisy, Jr., professor of biochemistry at the School of Medicine. In his investigation, Doctor Doisy will place patients in the St. Louis University Hospitals on chemically refined diets which lack Vitamin K. He then will measure blood clotting deficiency factors. Part of his investigation will be devoted to making an assay of the normal diet of the patient and comparing it with one lacking the Vitamin K content. It is hoped that findings may shed light on some of the problems of heart disease.

MISSOURI UNIVERSITY

A memorial fund honoring the late Dr. Arch E. Spelman, Smithville physician, will be established with funds contributed by the staff and faculty of the Medical Center and Missouri Regional Medical Program at the University of Missouri.

Doctor Spelman founded Smithville Community Hospital in 1938. Before his death in October, 1967, he had a broad career as a surgeon, general practitioner, innovator and writer in the medical field. He also was on the staff of the UMC School of Medicine and worked with it in testing programs for better community health, some of them established at the Smithville hospital.

The memorial fund will be held in trust for worthy research and to improve the distribution of health care in Missouri.

Attending the check presentation ceremony were Drs. Vernon E. Wilson, executive director of health affairs; Henry M. Hardwicke, assistant professor of physical medicine and rehabilitation; and Lester Wolcott, associate professor of physical medicine and rehabilitation and chairman of the department of community health and medical practice, all faculty members who worked with Dr. Spelman in the Smithville regional medical project.

Mrs. Arch E. Spelman confers with Dr. William D. Mayer, dean and director of the University of Missouri Medical Center, after the formal presentation of the check which will be used to establish a fund honoring the late Dr. Arch E. Spelman.

WASHINGTON UNIVERSITY

The Edward Mallinckrodt, Jr., Foundation of St. Louis has pledged $500,000 to Washington University to endow a chair of physiology and biophysics at the School of Medicine.

Carlton C. Hunt, M.D., a nationally known neurophysiologist, will become the first Edward Mallinckrodt, Jr., Professor of Physiology and Biophysics. Dr. Hunt came from Yale University in December, 1967 to join the faculty of medicine as head of the department. At Yale, he served as chairman of the department of physiology.

This is the third professorship at the School of Medicine that will bear the Mallinckrodt name.

Dr. E. James Anthony, Blanche F. Ittleson Professor of Child Psychiatry, has been elected a member of the board of directors of Foundations' Fund for Research in Psychiatry for a three-year term.

The Foundation was established in 1952 for the charitable, scientific and educational purposes of researching causes for people becoming mentally and emotionally ill and to determine the best methods for helping them to get well. Researchers in the United States and several foreign nations have received financial assistance from the Foundation.

Also director of the William Greenleaf Eliot Division of Child Psychiatry at the University, Dr. Anthony came to St. Louis in 1958 from London, England where he was director of child research at the Institute of Psychiatry at the University of London. He also holds the title of professorial lecturer in the department of psychiatry at the University of Chicago School of Medicine.

Herman N. Eisen, M.D., professor and head of the department of microbiology, has received the New York University School of Medicine Alumni Association Scientific Award for 1968.

This is the highest award given annually on Alumni Day to the N.Y.U. graduate who has distinguished himself scientifically. In 1966, Dr. Eisen received a Distinguished Alumni Award from his alma mater. He was granted the A.B. degree in 1939 and the M.D. degree in 1943. He came to St. Louis in 1955 from New York University where he was associate professor of industrial medicine.

Doctor Eisen's scientific career has been marked by a series of discoveries of interest, both to basic research and to applied medicine. He has contributed to the understanding of the structures of antibodies and the fundamental biological process by which specific antibody molecules are formed.

Milton N. Goldstein, Ph.D., associate professor of anatomy, has received a $15,800 check from the Damon Runyon Memorial Fund for Cancer Research. The grant was awarded Dr. Goldstein for investigative research on "Induction of Neuroblastomas *In Vitro*."

To date, the Runyon Fund has invested $24,185,108 in 1,982 grants and 654 fellowships for cancer research. Of this amount, $212,340 has been received in Missouri. Organized by Walter Winchell, the Runyon Fund is composed primarily of newspaper and show business personalities. All monies contributed are used for cancer research without deducting any funds for expenses.

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Volume 65, Number 4—April, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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MICHAEL L. McCANN, M.D., YOSHIO MIYAZAKI, M.D.,
RICHARD A. GUTHRIE, M.D. *and*
ROBERT L. JACKSON, M.D., *Columbia*

A New Therapeutic Rationale for the Infant of the Diabetic Mother

This report describes a new therapeutic rationale which is believed to be specifically directed at the basic underlying abnormalities in infants born to diabetic mothers and which is now being evaluated by the perinatal team of the University of Missouri. The authors propose that a dual hormonal imbalance between epinephrine and insulin accounts for many of the heretofore unexplained abnormalities in these infants. Doctor McCann is an Assistant Professor, Doctor Miyazaki is an Instructor, Doctor Guthrie is an Instructor and Trainee and Doctor Jackson is Professor and Chairman of the Department of Pediatrics at the University of Missouri School of Medicine.

The hazards to infants born of diabetic mothers continue to challenge the best team efforts of the obstetrician, internist and pediatrician. In addition to the risk of sudden unexpected death in utero and the obstetrical problems caused by their overgrowth, the neonatal morbidity and mortality rates remain high.[1] The greatest hazard may be the latent brain damage of surviving infants. The object of this report is to describe a new therapeutic rationale which we believe is specifically directed at the basic underlying abnormalities. We have proposed that (1) a hormonal imbalance between epinephrine and insulin accounts for the protean physical, biochemical and clinical abnormalities of these infants and (2) specific hormonal replacement therapy may prevent or correct these abnormalities in live-born infants.[2]

Fetal Hyperinsulinism Hypothesis

According to previous concepts,[3] fetal hyperinsulinism is the basic abnormality which these infants share in common. Thus maternal hyperglycemia transmitted to the fetus stimulates excess fetal insulin production. Excess fetal insulin (which does not cross the placenta) results in fetal overgrowth as well as excess fetal glycogen and fat stores while, at the same time, blood glucose and fatty acid levels (FFA) are abnormally low.[4, 5] The clinical counterpart is the fat and floppy "fragile giant" who has a variety of neurological, respiratory and feeding problems associated with acid-base and electrolyte abnormalities.

There is abundant evidence to support the maternal hyperglycemia-fetal hyperinsulinism concept if the data are *averaged*. Pedersen has shown a correlation between maternal blood glucose levels and the size of the infant; the higher the mother's average blood glucose concentration, the larger the infant.[3] If mothers with chemical diabetes (non-insulin dependent or gestational diabetes) are treated with insulin, more infants are normal at birth and less are overweight.[6] In addition there is an inverse correlation between the rate of glucose disappearance in the mother and that of her infant.[4] That is, if a gestational diabetic mother disposes of a glucose load slowly, her infant does so rapidly and vice versa. Direct measurements have demonstrated that both the circulating and pancreatic insulin concentrations are elevated *in the population as a whole.*[7–9] By contrast, normal infants have a transient relative insulin deficiency with a delayed insulin release.[10] Experimentally, exogenous insulin administration will produce excessive glycogen and fat stores and, at the same time, low levels of blood glucose and FFA. Thus, it would appear that the concept of fetal hyperinsulinism *at some time during gestation* is well grounded in theory as well as by direct evidence.

However, this concept does not explain many puzzling clinical and biochemical observations. Why do these infants die with apparent heart failure?[11] Why do some die suddenly without any known cause? Why are they so susceptible to "the respiratory distress syndrome"?[12] Although overgrown, why are they *smaller* than expected by comparison to normal infants with comparable maternal hyperglycemia?[3] Why do they have abnormally low levels of growth hormone in cord blood?[11,13] Why do they have difficulty with feeding and abdominal distention? Why do they have persistently abnormal neurological signs? Above all, why has the early institution of glucose feeding not been very successful?[3]

Epinephrine Depletion Hypothesis

New evidence suggests that there is another major hormonal aberration which occurs in some of these infants, that being a deficiency of epinephrine.[2, 14, 15] Epinephrine recently has been shown to specifically inhibit insulin release by the pancreas.[16] A deficiency of epinephrine, therefore, would be expected to be associated with excessive insulin release. In addition, growth hormone which is released via a central catecholamine mechanism would be low in the peripheral circulation. Contrariwise, excessive insulin during a critical stage in utero may suppress the normal production of epinephrine.[17]

An infant born with an epinephrine deficiency would be unable to mobilize liver glycogen which would result in hypoglycemia; he would be unable to mobilize excess fat stores which would result in low serum levels of FFA. Thus a critical fuel shortage develops, especially for the glucose dependent brain. In addition, the heart, which utilizes FFA, is not only in short fuel supply but also is short of the potent inotropic effects of epinephrine. A decreased cardiac output results in both *pulmonary hypoperfusion,*

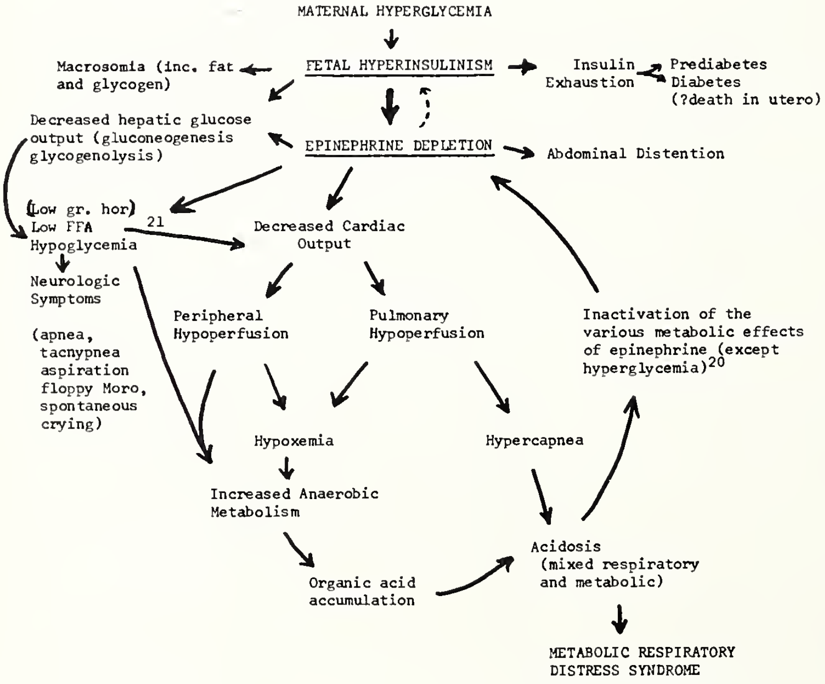

MATERNAL HYPERGLYCEMIA
FETAL HYPERINSULINISM
Macrosomia (inc. fat and glycogen)
Insulin Exhaustion
Prediabetes
Diabetes
(?death in utero)
Decreased hepatic glucose output (gluconeogenesis glycogenolysis)
EPINEPHRINE DEPLETION
Abdominal Distention
(Low gr. hor)
Low FFA
Hypoglycemia
21
Decreased Cardiac Output
Neurologic Symptoms
(apnea, tacnypnea aspiration floppy Moro, spontaneous crying)
Peripheral Hypoperfusion
Pulmonary Hypoperfusion
Inactivation of the various metabolic effects of epinephrine (except hyperglycemia)20
Hypoxemia
Hypercapnea
Increased Anaerobic Metabolism
Acidosis (mixed respiratory and metabolic)
Organic acid accumulation
METABOLIC RESPIRATORY DISTRESS SYNDROME

Fig. 1 The epinephrine depletion hypothesis. According to this scheme, the complex biochemical and clinical abnormalities can be ascribed to a single pathophysiologic mechanism. However, the manifestations may be quite different in any one infant depending upon hormonal reserves.

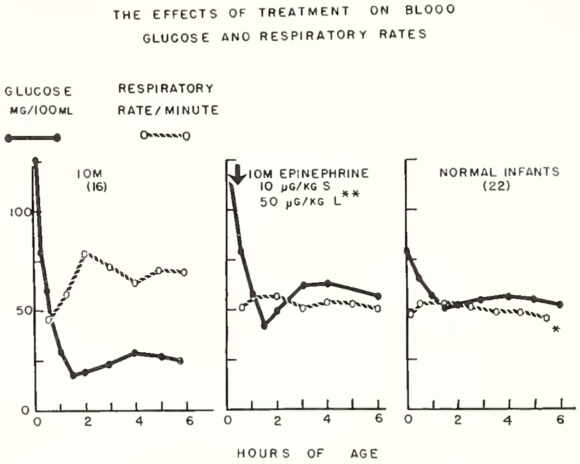
resulting in hypoxemia and hypercapnea, and *peripheral hypoperfusion*, resulting in increased anaerobic metabolism and metabolic acidosis. A vicious cycle is set up as diagramed in Fig. 1. The therapeutic rationale for the correction of these biochemical abnormalities is summarized in Table 1.

TABLE 1

RATIONALE FOR EPINEPHRINE THERAPY IN INFANTS OF DIABETIC MOTHERS*

Biochemical Abnormalities in IDM		*Effect of Epinephrine*
1. Serum insulin	High	Lowers
2. Pancreatic insulin	High	Blocks release
3. Tissue fat	High	Mobilizes
4. Tissue glycogen	High	Mobilizes
5. Blood glucose	Low	Elevates
6. Serum FFA	Low	Elevates
7. Serum growth hormone	Low	Mediates release
8. Catecholamine excretion	Low	Replaces

* The biochemical rationale for the therapeutic use of epinephrine in the specific subgroups of infants of diabetic mothers who have either hyperinsulinism or epinephrine deficiency.



*McCLELLAND ET AL. MIDWEST SOC. PED. RES. 1966 (16 INFANTS)
** SUSPHRINE BREWER

Fig. 2 Twenty-two normal infants are contrasted with 16 infants of insulin dependent mothers. The latter (left) develop a characteristic hypoglycemia associated with tachypnea in the initial hours of life. In the center are shown five similar infants who were treated immediately at birth with a combination of short (S) and long acting epinephrine (L). Both hypoglycemia and tachypnea were prevented, resulting in values similar to normal infants (right). (Glucose oxidase technique.)

CLINICAL EVIDENCE IN SUPPORT OF THE EPINEPHRINE DEPLETION HYPOTHESIS

An animal model of the respiratory distress syndrome described by Defoe, Burke, and Anderson is strikingly similar to the disease seen in human infants.[18] These investigators administered to pregnant mothers either insulin or catecholamine blocking agents or both which resulted in catecholamine depletion in their newborns. On the basis of this study and the rationale outlined above, we have begun to evaluate the use of epinephrine therapy in newborn infants of diabetic mothers.

Preliminary results suggest that there is a marked clinical improvement in selected infants so treated.[2] If therapy is begun immediately at birth, infants who are so treated and who remain normoglycemic do not develop the tachypnea which is so characteristic of the untreated infant (Fig. 2). Unlike untreated control infants, they are able to feed within hours of birth without aspiration or abdominal distention. Their abnormal neurological reflexes disappear within hours, as contrasted to days in the untreated controls. Biochemically, the free fatty acids as well as the blood glucose levels are elevated to normal levels, and the excessive release of insulin is suppressed (Fig. 3). Glucose feeding alone, by either the oral or intravenous route, conspicuously fails to correct these basic metabolic aberrations. Thus, it would appear that a specific and new hormonal deficiency disease can be successfully treated by replacement therapy with epinephrine.

HAZARD OF THE PREDIABETIC INFANT

Unfortunately, this hypothesis does not apply to all such infants. We have found that infants of diabetic mothers are not a homogenous population. At least three distinct groups have been identified to date: (1) those with hyperinsulinism, (2) those who are normal and (3) those with insulin deficiency (Fig. 4). These groups can be characterized by the degree of endogenous insulin release and by the rate of glucose disposal in response to an intravenous glucose challenge.

It is apparent that there may be great hazards in treating the prediabetic (insulin deficient) infants with epinephrine which may block the marginal insulin reserves. Such a case is described in Fig. 5. This infant initially responded to a glucose challenge with a minimal increment in insulin. After insulin blockage with epinephrine, there was no further insulin output and the baby went on to die with a refractory metabolic acidosis ($pH < 7.0$) and *hyperglycemia*

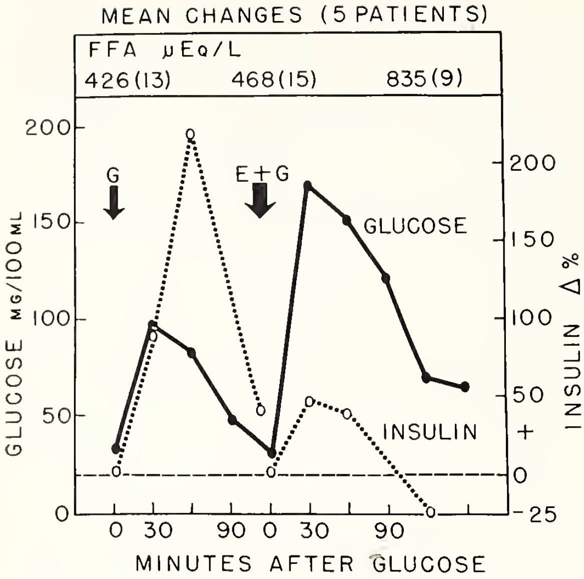


Fig. 3 Mean changes in serum glucose, insulin and FFA concentrations in five infants of diabetic mothers (two gestational and three insulin dependent) 30 to 90 minutes after two successive doses of glucose, 1 gm/kg, the first dose alone and the second 30 minutes following long-acting epinephrine (Sus-phrine^{R}, 0.01 ml/kg; 50 micrograms per kg diluted 1:10 in saline). Hyperinsulinism is suppressed by pretreatment with epinephrine (E+G) and rebound hypoglycemia, which occurs following glucose alone (G), is prevented. In addition, mean serum FFA levels are unchanged after glucose alone, but significantly elevated after epinephrine plus glucose. Since maternal anti-insulin antibody interferes with the determination of insulin by the double-antibody immunologic technique,[22] baseline insulin levels in infants of insulin dependent mothers are artifactually elevated. Therefore, data are expressed as increments (Δ%) which allow comparison with infants of gestational diabetic mothers in whom there is no maternal antibody and thus no baseline artifact. The insulin increments of these five infants were similar for both groups. Clinically, there was improvement after epinephrine and glucose, but not after glucose alone.

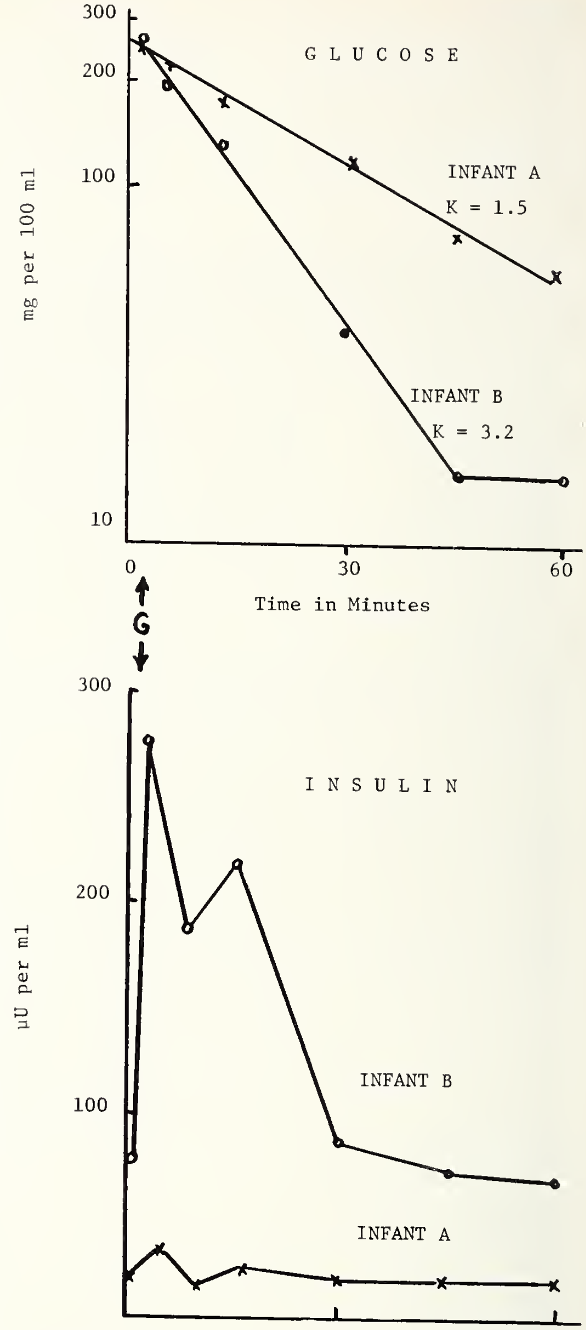


Fig. 4 Simultaneous glucose and insulin concentrations in two infants of gestational diabetic mothers. G=1 gm/kg glucose (20 gm/100 ml) was given via umbilical artery. Infant A demonstrates an abnormally low insulin response (bottom) and a slow rate of glucose disposal (top) (Prediabetic?). Infant B has hyperinsulinism and a rapid rate of glucose disposal.

(365 mg%). These infants probably represent the minority of diabetic offspring, because in over 40 infants treated with epinephrine, only one other has expired with a similar metabolic acidosis and hyperglycemia.[19] In retrospect, these infants may have benefitted from insulin or fructose therapy. However, we have not been geared to thinking about diabetes mellitus in these infants, especially when it follows so soon after hypoglycemia. We do not know the incidence of prediabetes in such infants. For this reason, we are routinely screening each infant at two hours of age with a glucose tolerance test (1 gm/kg of a 20% solution) given via the umbilical artery. Those infants with hyperinsulinism are readily identifiable by a rapid fall in blood glucose (< 40mg% at 90 minutes). They are currently being alternately treated with epinephrine, the controls serving for studies of catecholamine reserves.

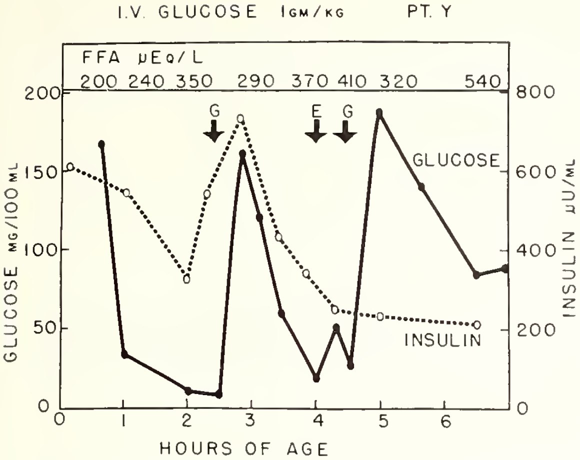


Fig. 5 This infant was a 2600 gm male, 37 weeks gestation, Caesarian delivery. The mother was a juvenile diabetic in poor control who received 50 u NPH insulin/d throughout pregnancy. Severe hypoxemia and acidosis were present from birth and the infant died at 28 hours of age following gradual onset of hyperglycemia. (The insulin baseline is artifactually elevated. See Fig. 3.) This patient may represent a prediabetic whose insulin reserves were rapidly exhausted or completely suppressed by epinephrine and who failed to recover from the initial hypoxemic and hypoglycemic insults.

It is apparent that each infant must be carefully evaluated *individually*. Generalizations about therapy are as inappropriate as the previous generalizations about hyperinsulinism. Thus, there may be five separate abnormal hormonal combinations involving epinephrine and insulin alone, not to mention growth hormone (Table 2). If we add to these the protean indirect metabolic effects of each of these hormones, such as the effects of insulin on Mg^{++} or FFA metabolism, an indeterminate number of abnormal combinations are possible for future study.

TABLE 2

THE PROBABLE SUBGROUPS OF INFANTS OF DIABETIC MOTHERS CLASSIFIED ACCORDING TO INSULIN AND EPINEPHRINE RESERVES

	SUBGROUPS				
	1	2	3	4	5
EPINEPHRINE	↓	N	↓	N	N
INSULIN	↑	↑	↓	↓	N

Significance of This Research

To document these abnormalities in the newborn infant represents a great challenge. As the infant emerges from an abnormal metabolic environment, he may reflect these abnormalities only transiently. For example, as the abnormal maternal glucose (or insulin antibody) stimulus is removed, the infant gradually recovers. A glucose tolerance test may be abnormal at two hours of age and normal at two weeks of age. Is this the infant who may develop diabetes mellitus later on in childhood? Our preliminary evidence suggests this as a real possibility. Can we delay the onset of overt diabetes by appropriate therapy in the newborn period? Above all, can we prevent the high incidence of occult brain damage which occurs in surviving infants? These are the efforts in which we are currently engaged.

Summary

A new therapeutic rationale for infants born to diabetic mothers is being evaluated by the perinatal team of the University of Missouri. We have proposed that a dual hormonal imbalance between epinephrine and insulin accounts for many of the heretofore unexplained abnormalities in these infants. Specific replacement therapy is based on the amount of insulin release in response to a glucose challenge. Preliminary results suggest that both the biochemical and clinical abnormalities can be corrected or improved in affected infants. It is emphasized that therapy must be individualized for each infant depending upon his subgroup since this is a heterogenous population. Hyperinsulinism is corrected and catecholamine deficiency is restored by epinephrine therapy. However, the same therapy in the prediabetic infant is potentially harmful. The long term benefits of specific replacement therapy, including detection of the prediabetic and the prevention of central nervous system sequelae, are being evaluated.

Acknowledgments: The authors wish to express their appreciation for the cooperation of the perinatal team that includes Dr. David Hall, Chairman of the Department of Obstetrics and Gynecology; Drs. Thomas Burns and Ronald James, Department of Medicine; and Drs. Yoshio Miyazaki, Gerard Van Leeuwen and Elizabeth James of Pediatrics. Drs. Robert Edmonds and James Pickens are undertaking the most critical evaluation of the latent neurological sequelae in surviving infants. Mrs. Betty Fox, R.N., provides valuable nursing assistance. Dr. D. Y. N. Murthy, William Womack, Jack England and Nancy Renshaw complete the laboratory team without whose assistance these investigations would not be possible. Finally, part of this original work was performed at Babies' and Children's Hospital, W.R.U., Cleveland, Ohio, in response to the exacting intellectual challenges of Drs. William M. Wallace and Thomas M. Teree.

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(Continued on page 284)

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W. H. LAUDERDALE, M.D., ***Jefferson City***

Renal Vascular Hypertension

A Review

Renal vascular hypertension is that form of sustained, diastolic hypertension produced by stenosis or obstruction of the large renal arteries that is potentially curable with surgical methods. The true incidence of renal vascular hypertension is speculative, but ischemic lesions of the kidney probably occur in about 4% of a relatively unselected hypertensive population.[1]

Although the relationship between the etiology of essential hypertension and disorders of the renal circulation are still subject to disputation, it has been made clear during the past 30 years that both vascular and parenchymal lesions of the kidney may be associated with hypertension.[2] In 1937, Butler reported the case of a child cured of hypertension following the removal of a previously obstructed pyelonephritic kidney, suggesting that a unilateral equivalent of the Goldblatt kidney might exist in man.[3, 4] The following year, Leadbetter published a case of renal vascular obstruction in a child cured of hypertension following nephrectomy.[5] While numerous clinical reports have documented the cure of hypertension following nephrectomy for certain unilateral parenchymal lesions, particularly pyelonephritis and hydronephrosis, neither the factors responsible for the elevation in blood pressure or methods for predicting the response to nephrectomy have been clarified up to the present time.[6, 7]

As opposed to parenchymatous lesions, obstruction within the main renal artery or major segmental branches producing hypertension usually can be documented allowing a commensurately better response to surgical treatment than that obtained with nephrectomy for unilateral parenchymal disease.[2, 8]

In 1953, Howard laid the foundation for the contemporary diagnosis of ischemic renal vascular disorders with the advocation of aortography and the postulation that individual renal function studies would allow the recognition of such lesions.[9] In 1954, Freeman reported the first application of vascular repair to an obstructive lesion of the renal artery.[10]

In spite of the numerous clinical diagnostic and surgical innovations that have developed during the past 15 years, the precise dynamics producing the blood pressure elevation have not been clarified. While it would appear incontrovertible that the hypertension is associated in some manner with an alteration in the renin-angiotensin system, persistent hypertension cannot invariably be explained by the presence of large quantities of pressor material in the blood.[11-13] Furthermore, the respective roles of medical and surgical treatment and the indications for nephrectomy, as opposed to the various angioplastic procedures, are areas of continued confrontation.

The purpose of this report is to review the etiology, diagnostic procedures and results of treatment in a selected group of patients with renal vascular hypertension.

Case Material

Twenty patients have been operated upon for renal vascular hypertension at the University of Missouri, 18 of whom have been seen since 1964. There have been 12 males and eight females with an age range of 16 to 78 years. The duration of the hypertension has ranged from ten days to eight years with the usual period being one to three years. One half of the patients were 30 to 55 years of age, the peak age range for essential hypertension. Physical examination did not help in the diagnosis of renal vascular hypertension except for the presence of an abdominal bruit. Although an abdominal bruit is often regarded as a significant physical finding in renal vascular hypertension, only six patients were noted to have such an abnormality. One patient had polycythemia, and the relationship of this to the renal vascular lesion is still under investigation.

DIAGNOSIS

Both rapid sequence excretory urography and radioactive renography have been widely advocated as initial screening procedures in renal vascular hypertension. The excretory urogram with or without "urea washout" was abnormal in 85% of the studies performed in this series. The usual findings were reduction in the size of the kidney, delayed or absent excretion of contrast media and delayed washout on the side of the lesion. Renography was used less frequently with rather indifferent results. We do not wish to deprecate renography, which frequently has been noted to be as reliable as excretory urography.[14]

Regardless of the results of initial screening, when clinical circumstances dictated complete evaluation, renal angiography was performed by the Department of Radiology, usually by the retrograde femoral route.

In most instances, an effort to identify a distinct functional equivalent of the lesion noted on the angiogram was made preoperatively through the use of split function studies and the determination of pressor materials in the blood (Table 1).

TABLE 1

RENAL VASCULAR HYPERTENSION

DIAGNOSTIC STUDIES

Procedure	No. Studied	% Abnormal
Excretory Urography	20	85
Renography	11	50
Aortography	20	100
Split Functions	14	90
Peripheral Renin	8	50
Renal Venous Renin	6	100
Pressure Gradient	7	100

Split function studies were performed under topical or low spinal anesthesia stimulating diuresis with oral hydration supplemented with parenteral saline. Occasionally, 4% urea was used to encourage urine flow.[15] Results were interpreted according to the general criteria advocated by Howard.[16] The individual 15-minute excretion and concentration of PSP were usually obtained, and when leakage around the ureteral catheters precluded reliable volume collections, the respective concentrations of sodium, creatinine and PSP still provided meaningful information. Among the 14 patients in whom urine collections were satisfactory, there were three instances where no urine was obtained from the diseased kidney and ten cases where a distinct ischemic pattern could be identified. The one exception was a young woman with bilateral fibromuscular hyperplasia who showed a distinct reduction in volume on the right side without variation in the sodium or creatinine concentration (Fig. 1). Subsequent determinations of renal venous renin and a substantial pressure gradient encountered at operation implicated her right kidney and she is normotensive following renal revascularization.

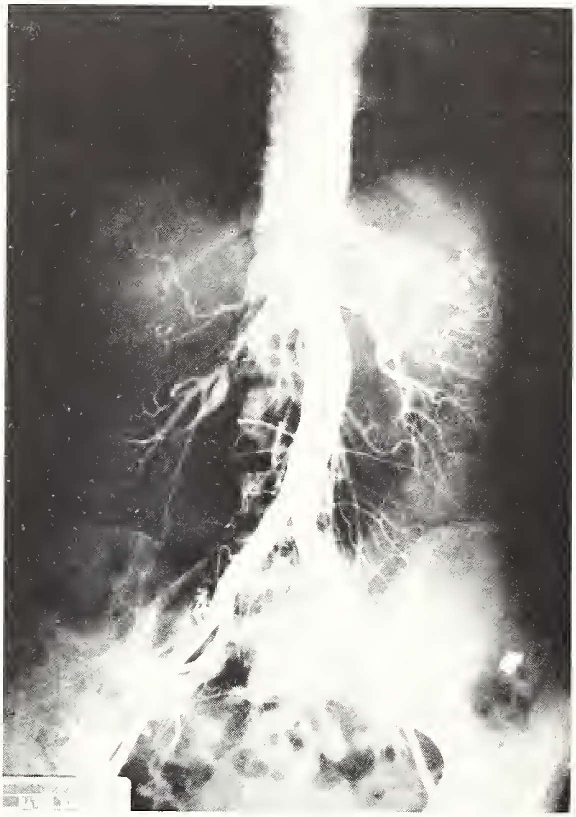

Fig. 1 Renal arteriogram showing bilateral fibromuscular hyperplasia.

During the past two years, the determination of renin activity in peripheral and renal venous blood has been performed in selected patients using a modification of Helmer's method for processing the blood followed by assay for pressor activity in the nephrectomized rat.[17] In our limited experience, the random determination of renin activity in peripheral blood has not been

A review of the etiology, diagnostic procedures and results of treatment in a selected group of 20 patients with renal vascular hypertension. Doctor Ross is Associate Professor of Surgery (Urology), Doctor DeWeese is Professor and Chairman of the Department of Surgery and Doctor Galloway is Associate Professor of Medicine at the University of Missouri School of Medicine. Doctor Lauderdale, who completed a Residency in Internal Medicine at the University recently is now in private practice in Jefferson City.

a useful screening procedure because of the many variables which influence renin concentration.

The significance of increased concentrations of renin activity in renal venous blood requires additional evaluation. A comparison of renal vein renin from each kidney is a good method for prognosticating the response to surgical treatment of the renal vascular abnormality. A two to ten fold increase in concentration of renin on the affected side correlated well with the results of split function studies and accurately predicted at least an *initial* salutory response to surgical treatment.

Although theoretical considerations suggest that pressure gradients across an obstruction may fluctuate as a function of changes in intrarenal vascular resistance, we have been reluctant to proceed with operation in the face of a gradient that is less than 20 mm Hg.

Bilateral renal biopsy, special studies of the juxtaglomerular apparatus and the determination of individual PAH clearances have all been promulgated for their value in prognosticating the response to nephrectomy or revascularization. We have not routinely obtained such studies and cannot draw conclusions regarding their value from personal experience.

Treatment

There is a definite role for medical therapy in the management of renal vascular hypertension and, ideally, the elderly patient with extensive atherosclerosis should be managed with antihypertensive agents if they are effective. Surgical management is indicated in young individuals, in the absence of widespread vascular disease, and particularly in situations where severe hypertension is refractory to medical management.

Nephrectomy was performed as the primary surgical treatment of choice in 12 patients, 11 of whom have been followed for at least six months. In general, it was used in poor risk patients over the age of 60, where multiple small renal arteries were encountered and in the face of inadequate vascular runoff distal to the obstruction. Eighty-four per cent of these patients were cured or substantially improved following the procedure (Table 2).

TABLE 2

RENAL VASCULAR HYPERTENSION

RESULTS OF SURGICAL TREATMENT

Procedure	Cured	Improved	Failed	Uncertain
Nephrectomy (13)	5	5	2	1
Angioplasty (8)	3	1	3	1

Treatment Failure
Technical Failure - 2 (Secondary Nephrectomy)
Contralateral Disease - 3

Angioplasty was performed in eight patients, seven of whom have been followed for ten months or more. Among other procedures, endarterectomy with or without patch grafting has been advocated for revascularization of the kidney. It is our feeling that this operative approach has little application to problems involving the renal artery because of the fragile nature of the vessel. The procedures which we prefer are reimplantation of the renal artery into the aorta, which was performed twice, or by-pass grafting used on six occasions. Saphenous vein was used as the graft source in four instances while a segment of hypogastric artery and a teflon graft each were used once. Although the various synthetic grafts used in revascularization appear to have a reasonable life expectancy, our favorable experience with saphenous vein makes us regard this as the graft material of choice at the present time.[18]

We have had four successes and three failures following angioplasty. The final patient has had a favorable initial result, but has not been observed long enough to draw any final conclusions.

Discussion

The vascular lesions encountered in this series of patients were atherosclerotic in ten patients. Two additional patients had renal arterial thrombosis distal to an obstructing plaque. There were four patients with fibromuscular hyperplasia and one instance of mixed atherosclerosis and fibromuscular hyperplasia. The three other lesions encountered were post-traumatic or congenital obstruction of the renal artery, multiple renal arteries with associated severe arteriolar nephrosclerosis and a 42-year-old woman with segmental disease of the aorta of unknown origin which obliterated the origin of the left renal artery, coeliac axis and superior mesenteric artery (Fig. 2).

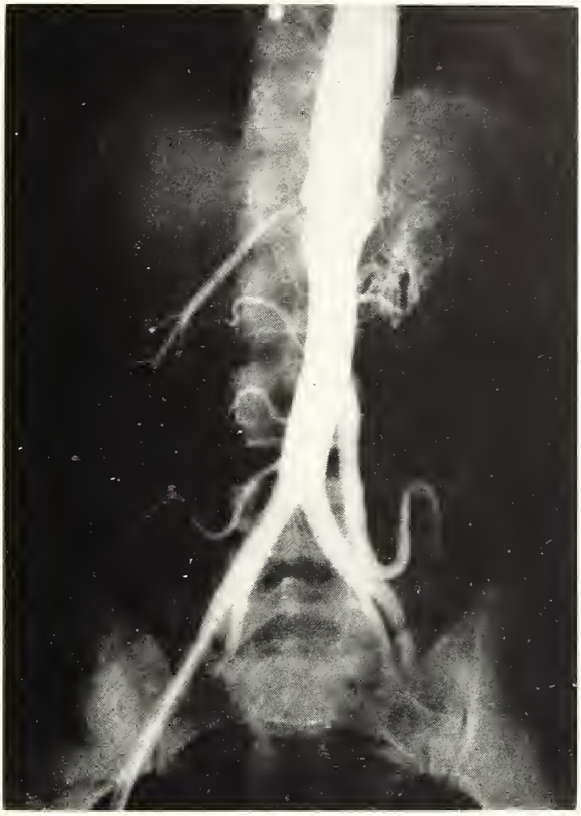

Fig. 2 Aortogram demonstrating complete occlusion of the coeliac axis, superior mesenteric artery and left renal artery.

The nature and apparent severity of the vascular obstruction did not correlate with the histologic features of various nephrectomy specimens. With the exception of one instance of renal infarction, these kidneys were reported as showing either chronic pyelonephritis or varying degrees of arteriolar nephrosclerosis or they were "end stage kidneys."

The reason for the failure of operation to rectify the hypertension may be disputed, but it would appear that in three patients disease of the contralateral kidney was responsible. These failures were not correlated with the type of procedure performed. The blood pressure improved for four to six months before hypertension recurred and was eventually fatal in two patients who were found to have severe arteriolar nephrosclerosis of the contralateral kidney at autopsy. The third is alive and has an atherosclerotic plaque involving the ostium of the contralateral renal artery which may be related to the recurrence of the hypertension.

One patient subjected to angioplasty represents therapeutic failure because of poor judgement in the selection of operation. This 42-year-old woman had total proximal obstruction of the main renal artery but good collateral circulation to the kidney and patency of the distal main renal artery. An aorto-renal by-pass graft was successfully accomplished. Although graft patency was documented by postoperative angiography, malignant hypertension developed requiring emergency nephrectomy. In retrospect, an initial nephrectomy would have been more appropriate. The other apparent failure following attempted revascularization involved a 30-year-old woman with fibromuscular hyperplasia who required prolonged clamping of the renal artery because of technical difficulties encountered during the course of an aortorenal by-pass procedure. Postoperatively, the blood pressure remained elevated and upper pole renal atrophy developed which ultimately required a secondary nephrectomy at another institution. Both these patients are improved over their initial preoperative status but require anti-hypertensive medication.

It is apparent that appropriate surgical candidates were selected with relative accuracy and, considering the severe refractory hypertension present in the majority of such patients, the indications for surgical intervention would appear to have been entirely justified. There is an obvious need for diagnostic studies which produce less potential morbidity, are less complex and are more universally applicable. The significance of split PAH clearances and contralateral renal biopsy in eliminating inappropriate surgical candidates has not been resolved.[19, 20] Modifications in the method for determination of bilateral renal venous renin activity may have wide application in the investigation and selection of patients with renal vascular hypertension during ensuing years.

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The hospital ship S.S. *HOPE* is scheduled to arrive in Colombo, Ceylon on April 15 to begin the project's most comprehensive medical teaching and treatment mission to date. The *HOPE* team of 150 physicians, dentists, nurses and technicians will work for ten months with Ceylonese medical counterparts.

Since the first voyage, more than 1,100 American medical personnel representing all 50 states have served with the Project. The *HOPE* staff has trained 4,017 medical personnel, treated more than 120,000 persons, conducted some 10,788 major operations and benefitted more than 2 million people through immunization, examinations and other services.

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Multiple Drug Resistance in Bacteria

In more than two decades since the widespread use of sulfonamides and antibiotics, the successful treatment of some infectious bacterial diseases still has not been fully achieved. The main reason for this is the existence of drug-resistant strains of bacteria. Although the majority of resistant strains are believed to result from a rare spontaneous mutation with the subsequent selection of the mutant and its progeny in the presence of the drug, still another process for the origin of resistant strains must now be accepted. Furthermore, the implications of this type of resistance may be even more ominous than that resulting from mutation and selection.

The type of resistance to be discussed in this paper was first observed in Japan in 1955.[1] Bacteria belonging to the genus, *Shigella*, were isolated from a patient with dysentery. This strain was unusual in that it was resistant to sulfonamides and the antibiotics, streptomycin, chloramphenicol and tetracycline. In Japan, the incidence of dysentery has increased markedly since 1957, and many of the outbreaks are caused by strains of shigellae refractory to the commonly employed chemotherapeutic agents.[2] Moreover, the incidence of multiply-resistant strains is increasing not only in Japan but also in other parts of the world, including the United States. Many species of *Salmonella, Proteus, Pseudomonus, Klebsiella, Serratia, Citrobacter*, and *Escherichia coli, Pasteurella pestis* and *Vibrio cholerae* have since been shown to demonstrate this unique type of multiple drug resistance which may include resistance also to ampicillin, neomycin and kanamycin.[3-7]

The origin of these multiple drug-resistant strains of bacteria raises many questions. Not only is the occurrence of multiply-resistant strains of shigellae too rapid to be the result of mutation and selection, but also during outbreaks of dysentery in Japan some isolated shigellae were sensitive to all drugs tested, while other strains of the same serologic type were multiply-resistant. Sometimes both sensitive and resistant strains of the same serotype were isolated from the same patient. Furthermore, although mutation and selection can explain the occurrence of strains resistant of a single drug being used in therapy, this cannot explain the isolation of multiply-resistant strains from a patient being treated with a single antibacterial drug. An interesting observation made is that many patients who harbor multiply-resistant shigellae also harbor strains of *E. coli* resistant to the same four drugs.

In 1959, it was suggested that multiple drug resistance might be transferred from multiply-resistant strains of *E. coli* to shigellae in the intestinal tract of patients with dysentery.[8] Subsequently, this transfer of resistance was demonstrated *in vitro* and since has been demonstrated in laboratory animals and even in human volunteers.[9]

To understand the mechanism of the transfer of drug resistance in bacteria, it is necessary to mention briefly the known methods of genetic transfer in bacteria, namely transformation, transduction and conjugation. In transformation, deoxyribonucleic acid (DNA) extracted from a donor strain of bacteria and mixed with a suitable recipient can replace small portions of the DNA of the recipient and, thereby, confer new genetic characteristics to the recipient. Because of the fragility of extracted DNA and the fact that only small fragments of DNA are taken up by a recipient, more than one genetic trait rarely is transferred at a time. In transduction, bacterial viruses or bacteriophages infecting a donor strain of bacteria are able to incorporate into their own genetic make-up some of the DNA of the donor. When these bacteriophages infect a second bacterial cell, some of the DNA from the original bacterial host can be transferred to this second recipient cell and with it new genetic characteristics. Since only small fragments of bacterial DNA can be incorporated into bacteriophages and, subsequently, are transferred to the second bacterial host, it is unlikely that more than two genetic traits will be transferred at a time. In conjugation, direct contact between two bacteria of opposite "sexes" can

In addition to spontaneous mutation explaining the origin of drug-resistant bacteria, another mechanism for their origin has come to light recently. It involves conjugation between drug-resistant and drug-sensitive bacteria and the subsequent transfer of cytoplasmic elements which may confer on the recipient cells resistance to as many as seven different chemotherapeutic agents. This transfer of resistance can occur between all genera of intestinal bacteria and even non-intestinal bacteria. The author discusses various aspects of this type of resistance and its implications to medicine. Doctor Parisi is Assistant Professor, Department of Microbiology, University of Missouri School of Medicine.

result in the transfer of DNA from the male to the female. Maleness is determined by the presence of a fertility (F) or sex factor which may be located either in the cytoplasm or integrated into the chromosome. A cell possessing an F factor, regardless of its location in the cell, is a male or F^+. The F factor has been termed an "episome," which is defined as an accessory genetic element that may exist either in the cytoplasm autonomously or integrated into the chromosome. Female (F^-) cells lack the F factor and, during conjugation, receive from the male either the F factor alone, a portion of or the entire chromosome of the male, or both F factor and chromosomal material.

Due to the small number of genetic characteristics usually transferred by either transformation or transduction and because cell to cell contact was observed necessary for the transfer of multiple drug resistance, conjugation seemed the most likely mechanism for the existence of multiply-resistant strains of bacteria. However, there were some observations which suggested that the process responsible for multiple drug resistance was different from what was already known regarding genetic transfer by conjugation. For one thing, it occurred between F^- cells; also, known chromosomal traits usually were not transferred along with drug resistance. Moreover, recipient cells became resistant almost immediately after the transfer occurred, whereas with chromosomally inherited traits, there is a delay in their expression due to the time required for recipients to divide and incorporate some of the transferred genetic material into their own genetic make-up.[2]

A number of experiments have shown that the factors responsible for multiple drug resistance are extrachromosomal or cytoplasmic elements which have been termed "resistance (R) factors." They resemble the sex factor, F, and other episomes of bacteria in that they also may integrate into the chromosome. The available evidence indicates that R factors are composed of DNA and, within a cell, are circular, self-replicating units which, in addition to containing segments that determine resistance to different drugs, contain a segment termed the "resistance transfer factor (RTF)" which mediates cell conjugation and controls the ability of the R factor to replicate and be transferred.[10] When bacteria containing an R factor came into contact with a population of drug-sensitive bacteria, a few R factors are transferred by conjugation to recipient cells which immediately become resistant and are able to transmit the newly acquired R factor to other drug-sensitive cells.[2] Cultures containing R factors are almost unaltered in their characteristics other than drug resistance; their biochemical and serological reactions, colonial appearance and virulence are similar to those of drug-sensitive cultures.

The biochemical mechanism of resistance conferred by R factors is not completely understood. When it was first observed that resistance to four chemically unrelated drugs could be transmitted together from one species to another, it was thought that the factor responsible acted by altering the permeability of a bacterial cell in a general way. The finding that in an R factor there are separate determinants for resistance to each drug indicated that each determinant had its own mode of action. Although permeability may be involved in the case of resistance to some drugs, it is now clear that other processes also are involved. It has been shown that the presence of R factors in some bacteria confers on them the ability to synthesize enzymes able to inactivate particular drugs.[10]

To date, the transfer of drug resistance has been demonstrated not only within all genera but, also, between all genera of the *Enterobacteriaceae* and, also, in the non-enteric genera mentioned earlier. The frequency of transfer varies markedly between cultures. In some mixtures nearly all the sensitive bacteria become drug-resistant, whereas in others only a small proportion is affected. Although the most common pattern of resistance of cultures in Japan was to sulfonamides, streptomycin, chloramphenicol and tetracycline, combinations of resistance to three or two of these drugs and single drug resistance also were found to be transferable. The levels of resistance conferred by R factors vary from drug to drug, from R factor to R factor and, also, with the same R factor in different hosts. In general, the levels of resistance conferred by R factors are comparable with the drug concentrations attainable in human blood and tissues. Thus, their presence in cultures could render antibacterial therapy ineffective.[10]

Clinical Significance

It is too early to determine how the treatment of infectious diseases caused by bacteria with R factors will be affected. Another important consideration is the effect of the use of antibiotics in livestock feeds. Although the presence of bile salts and fatty acids suppresses the transfer of multiple drug resistance *in vitro* and probably has a similar effect in the intestine,[9] it has been shown that antibiotics in animal feeds can exert a selective pressure in favor of organisms, particularly salmonellae, with R factors.[7] Furthermore, in many countries the treatment of meat and foodstuffs with antibiotics and synthetic drugs could serve to spread bacteria with R factors to man. In the event of disease and subsequent drug therapy, these resistant organisms would have a selective advantage and render therapy ineffective.

In the United States, there have been numerous reports of the isolation of bacteria with R factors and their ability to transfer R factors to other bacteria.[4-6] Infection of the genitourinary tract probably is the most common clinical problem created by enteric bacteria, and resistance to drugs is a serious therapeutic problem. In one study, the enteric bacteria isolated from the urine of 100 consecutive unrelated patients with the infection of the genitourinary tract were examined for the presence of transferable R factors. Of the four species of bacteria isolated—*E. coli*, proteus, klebsiella and pseudomonas—74% of the strains were resistant to at least one of the drugs and 53% were resistant to three or more drugs. Furthermore, 69% of all the resistant strains isolated were able to transfer part or all of their resistance to drug-sensitive bacteria.[11]

At the University of Missouri Medical Center during the past year, we have observed the most common pattern of resistance in bacteriuric *E. coli* is to tetracycline and streptomycin. We also have demonstrated the ability of some of these strains to transfer R factors to drug-sensitive strains. Currently, we are attempting to demonstrate the transfer of R factors from drug-resistant to drug-sensitive strains of *E. coli* isolated from the same patient.

Many interesting questions regarding the origin of R factors and the environmental pressures responsible for their selection remain unanswered. Although the first R factor in a culture was reported in Japan in 1955, it has been shown recently that a culture of *E. coli* isolated prior to 1937 and maintained in a laboratory until 1946 when it was lyophilized and kept in storage, contained an R factor. This strain was resistant to tetracycline and streptomycin, drugs which did not exist at that time, and it was able to transfer these resistances to drug-sensitive strains.[12] R factors also have been shown to mediate resistance to antibiotics not yet available commercially.[12] These findings indicate that R factors are not a recent phenomenon, they need not have been transferred recently to the United States from the Far East or Europe and the relationship between the selection of strains with R factors and iatrogenic contamination of the environment with drugs is not as direct as presumed originally.

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Glue Sniffing

In the past decade or two, there has been an alarming increase in all forms of delinquent behavior in children and adolescents. This upward trend in "acting-up" has been paralleled more recently by a pronounced increase in the illegal usage of drugs and chemicals aimed at achieving an unusual mood or state. In the search for new agents for experiencing "ersatz" exhilaration or for negating and obliterating unpleasant, uneasy feelings, these young people have used ingenious and novel ways of achieving their aim. The agents responsible for their experiences have run the gamut from banana peel to LSD 25. Even nutmeg, cinnamon and other lowly condiments have been used to "spice" their experiences.

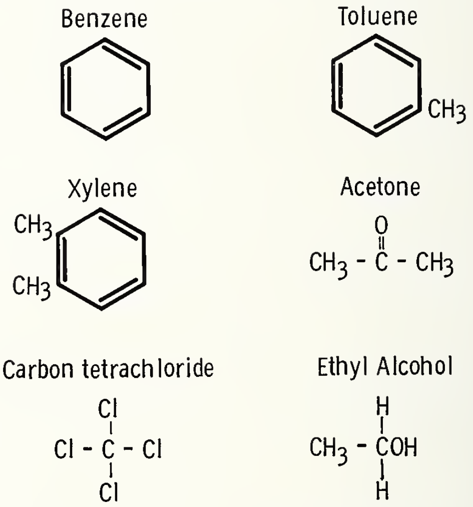
It is axiomatic that a drug or chemical is harmless until it has a susceptible host. The individual likely to abuse drugs is usually susceptible by virtue of a character deficit, a neurotic disability or other psychiatric involvement. It is a fact that a well-balanced, emotionally-healthy individual will not allow himself to even start experimenting with drugs. Since personality deficits often are environmentally produced and sustained, it follows that a harsh, unyielding, degrading slum or ghetto existence may well be a very important factor in the creation of an addict or habituate. In fact, the drug-way of life is an accepted way in many slums. In the following paragraphs, we will attempt to present some of the better known facts concerned with "sniffing" of glue, gasoline or other related toxic chemicals.

"Sniffing"

The practice of "sniffing" commercial solvents and fumes from model airplane cements is probably much more widespread than we dare believe. This is especially true in the larger cities. Dr. J. Sokol,[1] chief physician for the Los Angeles County Probation Department, writes: "We, at Juvenile Hall, have investigated the cases of over 717 children, up to April 1, 1965, who have been admitted to the Hall by the probation officers because of glue-sniffing." The common active ingredients of glue (toluene, etc.) responsible for the jag are usually freely available in stores everywhere. Model airplane cements contain the toxic solvent, but it is also possible to buy toluene by the gallon since it is a widely used, commercial degreaser. There is no control exerted over the sale of this type of glue or solvent as yet, in spite of a concentrated effort by alarmed groups to pressure private enterprise into finding or developing a safer substitute.

Responsible Agents

Toluene is the most frequently used solvent in plastic cement or airplane glue, but the following volatile organic solvents may be used alone or in various combinations as a solvent and can act as an intoxicant (Fig. 1):



toluene (toluol)
xylene
benzene
gasoline
naphtha
kerosene
methyl isobutylketone
methylethyl ketone
acetone
methylpropylketone
ethylenedichloride
trichloroethylene

methylene chloride
carbon tetrachloride
chloroform
amyl acetate
butyl acetate
ethyl acetate
diethylether
isopropyl alcohol
ethyl alcohol
butyl alcohol
hexane

Fig. 1

Any of these chemicals taken in sufficient quantity can cause irreversible damage and, in some cases, even death. Benzene, toluene, xylene and carbon tetrachloride are considered to be the most lethal of the listed group. In man, inhalation of a 2% vapor of toluene or xylene for five to 10 minutes usually results in death.

Effects of Sniffing

Acute Effects. The general effects are those of an acute brain syndrome and are similar to those produced by alcohol intoxication. An excited period of some minutes precedes a period of depression. Some or all of the following effects may result from sniffing glue, gasoline, lighter fluid and thinners: pleasant exhilaration and excitement, transient euphoria, lightheadedness, giddiness, somnolence, disorientation, confusion, dullness, poor concentration, bizarre behavior, dizziness, lethargy, stupor, delirium, visual hallucinations, photophobia and irritation of eyes, diplopia, tinnitus, sneezing, coughing, nausea, vomiting, diarrhea, pains in chest, neck, head, legs, cramps in hands, paleness, breathlessness, unconsciousness, amnesia, anesthetic effect, decreased reflexes, muscular incoordination, staggering, slurred speech, blurred vision, dilated pupils, nystagmus, epileptiform seizures, tremors, tingling and numbness in hands and feet.

The vast majority of children report that during their jags, they feel strong, invulnerable and imbued with feelings of amazing capabilities. One of the more common feelings is that of "being able to fly." Some children feel insensitive to pain and will beat their fists on concrete, self-administer cuts and lacerations and otherwise test their insensibility to pain. Visual hallucinations and illusions are common and frequently terrifying, e.g., one young boy always saw "a big, black dog" and heard it "bark angrily."

Chronic Effects. Reports have listed the following long-term effects: fatigue and reduced physical activity, mental depression, anorexia, weight loss, irritability, inattentiveness, irritation of skin and respiratory tract (especially nasal and oral mucous membranes), excessive oral secretions, halitosis, tremulousness and unsteadiness, deterioration of handwriting, forgetfulness, bone marrow inhibition, low blood pressure, mild macrocytic anemia, aplastic anemia, congestion with intra-alveolar hemorrhage of lungs, cerebellar degeneration, elevated spinal fluid pressure caused by cerebral edema, hepatic necrosis, depression of circulating polymorphonuclear leucocytes with comparable increase in lymphocytes, hematuria, reticulocytopenia, pyuria, proteinuria, polychromasia, leukocytosis and lymphopenia.

It should be appreciated that the concept of permanent damage resulting from glue sniffing is opposed by some clinicians. However, there seems to be evidence to support the contention that inhalation of toluene is capable of causing permanent organic brain damage[2, 3] and aplastic anemia,[4] as well as liver, kidney and lung damage.[1, 5-10] In another study of 15 glue sniffers, there were no indications of renal damage.[11] And so it goes.

Technique of administration

The child habituated to glue ordinarily uses one to two tubes of glue to produce a jag, but as little as one-third of a tube or as much as five tubes of glue may be needed. The glue may simply be expelled into any old rag and then inhaled nasally or orally. Intoxication may be achieved more efficiently by confining the vapors of the glue in a paper or plastic bag which is then pressed to the face for inhalation. At first, a few deep breaths may be sufficient. Tolerance soon develops however, so sniffing may have to be continued until intoxication is achieved or until the solvent is evaporated. The glue can be heated in a pan for a more rapid effect. The intoxication sometimes is further enhanced by drinking wine or beer alternately with sniffing glue. Generally, however, the usual mode of sniffing is from a highly concentrated source, such as may be had from a plastic bag, a waxed-paper bag or a soaked cloth. (Often, a telltale white, powdery ring is noted around the mouth of less experienced sniffers.) A series of deep breaths rapidly brings on a pleasant exhilaration and euphoria, with motor actions resembling that of a drunk. There is incoordination, slurred speech and difficulty in focusing the eyes. This phase may last 30 to 45 minutes and can be sustained for longer periods by repeated sniffs of the source. This is the stage at which the sniffer will act-up aggressively or in an otherwise irresponsible manner, lacking judgement, such as jumping from a roof ("I can fly") or daring a car ("Nothing can hurt me"). Hallucinations and distortions of perceptions, such as a friend's face appearing monstrous, are often experienced. In some users, there may be partial or complete amnesia for this phase. This initial phase is followed in due course by a let-down or hangover period which may last from a few hours to

Glue sniffing by children and adolescents has become widespread and is considered a problem by school officials, organized medicine and law enforcement agencies throughout the nation. This thorough report presents facts concerning the practice, discusses the undesirable physical and psychological effects of sniffing and offers sound suggestions for both legal and community preventive measures. Doctor Chapel is Assistant Professor in the Section of Child Psychiatry at the University of Missouri Medical Center and Mr. Taylor is a Pre-Medical Research Fellow at the University.

several days. There may be headache, gastrointestinal upsets, difficulty in concentration, tremors, lethargy, a depressive feeling and other assorted symptoms.

Gasoline sniffers more frequently sniff ("huffing") directly from automobile tanks, lawn mower tanks and other direct sources.[12] (One teenage habituée would accept only part-time jobs if the work was at a service station!) Reports also have described lighter fluid jags and other less well-known methods of self-intoxication.[13]

A variation of "sniffing" is that of direct spraying of the material into the oral cavity. This has been reported in the "thinner" abuser (chloroform, ethylene dichloride, carbon tetrachloride). Most recently, the *AMA News* (Nov. 23, 1967) carried the following "Gas Sniffing Warning" which directed attention to a DuPont Company warning concerning the possibility of death "from the sniffing of a glass-chilling gas produced in aerosol cans." The product was called Freon.

HABIT DESCRIPTION

Glue sniffing has become widespread enough to be considered a problem by school officials, organized medicine and law enforcement agencies across the nation. It seems to be more widespread in the urban areas, such as Los Angeles, Denver and New York City, but it also is actively practiced in some smaller communities. Boys are more likely to sniff glue than girls. The youth is often introduced to the drug by a group which dares him to try it, but the habit may begin through curiosity or through reading about the practice. Age varies from as low as six to adulthood.

Glue sniffing may be carried on individually or in groups in the rest rooms of elementary and high schools. Group meetings, however, are more often carried on in secret or secluded places.[14, 15] Group members may buy the glue with lunch money or allowances given by their parents, or they may occasionally steal to obtain money. The sniffing sessions may be followed by group horseplay, fighting and, occasionally, homosexual activity.[14] There have been reports of adults who encourage children to sniff glue. Some store owners have been reported to complete the sale of a tube of glue with a plastic or paper bag obviously to be used for sniffing.[15] Other adults have been charged with organizing glue sniffing parties for teenagers or with buying liquor for juveniles and joining them in sniffing glue. There also are reports of adult homosexuals who encourage children to sniff glue because they intend to have homosexual relationships with them.[12]

Medical literature contains some disagreement in regard to whether glue sniffing should be considered an addiction or an habituation. While numerous cases have been described as addictions,[1, 5, 7] Corlis[16] states that "although an increased tolerance to the amount of vapor inhaled occurs with repeated bouts, true addiction in the sense of addiction to heroin, has not been found." Glasser and Massengale (pp. 90, 303)[17] also are more discriminative in their classifications: "Although it is doubtful that true addiction to glue occurs, it is clear that children do acquire psychological dependency on the sensations induced and physiological tolerance to the vapors. Physiological addiction evidently does not occur, but psychological dependency is common." Thus, if physical dependence is seen as an essential criterion for addiction, glue sniffing apparently does not fit this. On the other hand, it is reported (and we have observed) that forced abstinence brings on irritability, excitability, severe restlessness and anxiety with concomitant headache, moderately severe abdominal pains and other muscle pains. At these times, it is difficult to control the child in spite of phenothiazine and encouragement. Nylander[18] reports flatly that there is as great a risk of addiction to thinner (toluol) as there is to alcohol. He also reports the occurrence of delirium tremens in a 17-year-old addict who abstained from "toluol" for three weeks.

A tragic sequela to sniffing is an ever increasing number of reported deaths directly attributable to the acute intoxication. There have been several reports of suffocation when a plastic bag, used for sniffing, inadvertently suffocated the sniffer. Some have committed suicide and others have died while attempting impossible or dangerous feats. There are several reports of acute pulmonary edema associated with glue sniffing bouts.

Association with Crime, Sex and Other Antisocial Behavior

Glue sniffers may first come to the attention of school authorities because of antisocial behavior such as defiance of teachers and truancy.[16, 19–21] They are often excluded by their peers as a result of their aggressive and antisocial tendencies.[19] Glue sniffers have been charged with law violations such as burglary, larceny, drinking, car-prowling, shoplifting and attempted homicide, and many sniffers have blamed their intoxication for the criminal behavior.[5, 19, 20] A 15-year-old boy, who was "high" on glue, forced five members of his family out of their home and shot himself in the leg, having gone beserk when his glue was confiscated.[19] Sokol[7] reports the case of a 14-year-old boy who shot himself after having sniffed a tube of plastic cement placed in a bag. He also reports other incidents, such as the firing of 15 shots into an inhabited building by five boys intoxicated from sniffing glue.[1]

Another crime with which sniffers have been charged several times is rape.[6] Massengal *et al*[21] report that "the intoxication produced by glue solvents was considered to have helped the child to avoid the anxiety that would otherwise have accompanied his hostile or sexual impulses. Many professed complete amnesia regarding their actions while under the influence of glue." One of the effects of glue sniffing is described as being a "dissolver of inhibitions" and, in this context, it would be appropriate to conclude that latent homosexual tendencies might well pop through to consciousness when the inhibitions are loosened. This would be analogous to the adult homosexual who only acts out sexually after he's been drinking alcohol. Since inhibitions also may be active in checking various other aggressive and antisocial drives, one can appreciate the tie-up between this type of intoxication and delinquency.

Personality Dynamics of the Sniffer and Huffer

It must be appreciated that the juvenile who chronically sniffs glue or otherwise uses any of this broad group of intoxicating chemicals is a different boy altogether from the user who does not repeat the experience after the initial jag. The "one-timer" may well be a normal adolescent who was dared to try the "stuff" and complied for fear of being considered "chicken" or "fruit" or "queer." (In many groups of adolescents, moreover, acceptance in the group is based or maintained on a demonstration of willingness to test or perform a new antisocial act.) The habitual user, on the other hand, has an internal need for this type of escape which dictates that "it's either this or alcohol or something else." Thus, personality predisposition may be considered a main factor in the development of this habit with secondary factors being situational pressures and source of supply. The sniffer frequently shows a disorganized personality with prominent anxiety and insecurity, poor relationships and poor school adjustment in evidence.[9, 10, 13, 19, 21–23] He often has difficulty in expressing his aggressive or sexual drives in other than antisocial or delinquent fashion. However, in spite of inability to express aggressive feelings, some (if not the majority) will explode into a diffuse, uncontrolled, irrational rage when stressed beyond a certain point of tolerance. At times, the sniffer has been found to be schizophrenic or to have other severe emotional problems.[24] More often, he has character abnormalities characterized by a sub-culture development with its predatory code, its language, its aims and its other group pereuliarities. In any case, the main reason for continued use is usually an internal need.

Sniffers come from both middle class and lower class backgrounds of various racial and ethnic groups, but most frequently they spring from the low socio-economic, multihandicapped family of the slum or the ghetto.[5, 17, 20] Generally, it can be expected that the family will be disorganized, with the parents lacking in the needed love and understanding for their children. They are often described as "hardcore," well known to probation, ADC, welfare workers and others, and they seem to live from day to day. One parent may be absent from the home much or all of the time, with constant quarreling when both parents are together. There is poor supervision, direction and inconsistent limit setting, with overt or covert rejection by one or both parents being almost a rule. There also is an abnormally high frequency of alcoholism among the parents of this type of children. It might well be that this exposure to alcohol explains in part why the sniffer has an increased likelihood of becoming dependent upon alcohol or drugs as an adult.[5, 19, 20, 24]

In school, the child is reported to be a truant, perhaps with a history of theft, defiance and other anti-social behaviors. Other traits include destructiveness, restlessness, overactivity, disruptiveness and lack of discipline. Deficient cultural nurturing tends to shift the IQ level in this group by approximately one standard deviation to the left of the average normal population. The inability to perform to expectations of parents, school and community leaves them frustrated, bitter and careless. A certain proportion does seem to require a certain number of kicks or thrills or change in a never-satisfied fashion. In some cases, the children have few friends, are rarely behavior problems in class and may be described as withdrawn and uninterested.

TREATMENT

Treatment of the acute intoxication is fresh air or administration of oxygen with or without 5% carbon dioxide. Tests should be done to determine whether or not there has been blood, bone marrow, liver or kidney damage.[25] Even asymptomatic cases should be referred for psychiatric observation and guidance, especially if the child has engaged in repeated bouts of glue sniffing.[14, 25-27]

While a child might sniff glue once or twice purely as a result of curiosity, repeated sniffing strongly suggests emotional imbalance or maladjustment. Psychiatric study would involve investigation of the home and, in many cases, the development of a family treatment plan. Because the child's emotional problems often involve his relationships with peers and friends at school, attempts at continued support and supervision through the school is usually advisable. The problems encountered are similar to those found in treating other habits from which patients must be disaccustomed. The importance of finding and correcting the underlying emotional problem is increased by the probability that the same underlying factors may lead the child to dependence on alcohol or addicting drugs at a later age.[25]

It is felt by many clinicians that treatment of the individual case is insufficient and that there should be efforts at the community and national level to educate public, parents and children to the potential risks of glue sniffing, to restrict the availability of glue and to regulate the formulae of various glues.

LEGAL PREVENTIVE MEASURES

Glue sniffing has become such a widespread problem that several cities and states have enacted legislation or made strong recommendations to restrict the sale of glue which contains harmful chemicals,[7, 10, 16, 17, 19, 27, 28] but few data are available to demonstrate how effective legal restrictions may have been in lowering the incidence of glue sniffing. There is, however, a city in Colorado which apparently was able to effectively halt the increasing problem of glue sniffing.[19] Action was taken through persons working with juveniles and the Chamber of Commerce cooperated by limiting the sale of plastic cements to persons under 18 years of age and, then only when accompanied by a parent. In California, several conferences (dating from 1962) have been held to consider this problem. Some of the suggestions made included the substitution of a non-toxic solvent in glues or incorporation of an irritant odorant or nauseant to discourage massive inhalation. A number of problems apparently has impeded optimum progress in this area.[9, 27] In Maryland, it is unlawful for any person under the age of 21 to deliberately sniff glue with the intent of becoming intoxicated.

DISCUSSION

Although the problem of glue sniffing is relatively minor in most of our villages and small towns, this is by no means true of the larger cities. Reports keep coming in of children having glue sniffing parties in unoccupied or semi-finished, new homes. Commonly, a youngster will be brought in to the Emergency Room in a toxic or stuporous state because of glue intoxication. Very recently, when we were conversing with a probation officer, he made it quite clear that in our particular city we are fortunate in having a problem only with glue. By comparison, St. Louis was experiencing a good deal of difficulty with glue as well as with "splash" or "spiven" (amphetamine) abuse by youngsters.

What can we as citizens and physicians do about glue sniffing? The following points may be of help:

1. Be aware of the fact that there is such a thing as glue intoxication and look for it.
2. Make the schools in the community and the public aware of the dangers of these intoxicants and urge that suitable nonintoxicating, substi-

(Continued on page 296)

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Ultraviolet Irradiation in Medicine: Ophthalmologic Aspects

Within our solar system the sun is the great emanator of electro-magnetic disturbances. Whether considered to be periodic vibrations or elementary particles, these disturbances propagated throughout space exhibit an unusually wide range or spectrum. Since man is self-oriented, the center of the electro-magnetic spectrum is usually considered to be the small band of radiation recognizable to the human eye as visible light. From this center band the spectrum extends in one direction to electro-magnetic oscillations several miles in length and in the other direction to cosmic rays with a wave length of approximately one trillionth of a millimeter. Because the series of radiations are continuous in space and their velocity and method of propagation are identical, division into groups is somewhat arbitrary. However, when consideration is given to the relationship of the radiation spectrum with matter and with its transmission through and absorption by different media, various bands of radiation can be differentiated which divide the spectrum into several natural regions.[1]

Biophysics

It is axiomatic in Draper's Law (1879) that only the energy which is absorbed by a system can exert any influence upon it. In keeping with this Law, radiant energy exerts a biological effect upon animal tissues only as it is absorbed by the tissues, and any energy reflected from the surface of the body or transmitted through it is without effect upon the tissues. Thus, in order to be knowledgeable of the biological effects of radiant energy, it is necessary to know the transmission and absorption characteristics of the tissues for the various portions of the electro-magnetic spectrum.[2]

The process of absorption may be regarded as consisting of two forms: (a) The energy of the radiation may be dissipated in the resistance to its passage offered by the tissue, or (b) the radiation may be absorbed into an appropriate part of the molecular system of the organism. It is this second mechanism of radiant energy absorption which primarily characterizes the biological effects induced by ultraviolet, visible and infrared radiation. In this mechanism, radiation is directly absorbed in an inverse relationship to its wave length. Thus, the proportion of energy absorbed from ultraviolet radiation is greater than that from infrared radiation. The periodicity of the shorter wave lengths constituting ultraviolet radiation corresponds with the frequencies of atoms and with their outer rings of electrons. This form of energy when biologically absorbed becomes a part of the intramolecular periodic system, thus raising the components to a higher state of energy and causing them to change their orbit or be expelled from the atomic system itself. This is a photo-chemical or photo-electrical effect and results pathologically in an *abiotic lesion.*[3] The biological factors of prime importance are the oscillating systems formed by the outer part of atoms and by molecules, as well as the physical state and chemical composition of the tissues involved. For the ultraviolet portion of the spectrum, each tissue has its own characteristic band of high absorption in which proteins are particularly affected, but nucleoproteins are affected differently from other proteins.[4]

Although the orthodox operating definition of ultraviolet radiation specifies that its absorption is normally accomplished by excitation rather than by ionization, it is presently open to question because some degree of both modes of absorption do, in fact, occur in biological specimens subjected to ultraviolet radiation.[5] The first spectral delineation of ultraviolet radiation by means of its biological effect was made by E. J. Widmark in 1887. Since that time, numerous investigators have performed a great amount of experimental work in evaluating the physical and biological effects of the band of radiation extending from the lower border of visibility to the limits of transparency of air. This range encompasses the wave lengths extending from ap-

With the scientific advances of the 19th Century and the demands of space explorations of the 20th Century, man has come to better understand the physical characteristics and biological actions of ultraviolet irradiation. Although earthbound man is partially shielded from its damaging effects, the clinical, space-related and biophysical aspects of this universally present form of radiant energy are increasing in medical significance. Doctor Buesseler is Professor of Ophthalmology at the University of Missouri School of Medicine. This paper was presented at the symposium on Ultraviolet Irradiation in Medicine at the 19th Clinical Convention of the American Medical Association.

proximately 400 mμ to approximately 180 mμ.[6] Because air absorbs the shorter wave lengths present in the "far" and "extreme" regions of the ultraviolet spectrum, earth-based investigative radiation propagations in these ranges have had to be undertaken in vacuum and, in addition, have been limited by the effectiveness of the radiation-sensing systems used. Although the full range of emanations in the vacuum of outer space beyond the earth's atmospheric blanket is still being clarified, it now appears reasonable in the state of our present knowledge to consider the ultraviolet radiation band existing in that environment to extend from approximately 10 mμ to 400 mμ.

The transmissibility of the body's surface, including the skin of the eyelids and the face, to ultraviolet radiation is present to a very slight degree for the violet and long ultraviolet rays at the zone of overlap with the visible radiations in the electro-magnetic spectrum. In like manner, the transmission of ultraviolet radiation through the eye itself decreases abruptly at about 400 mμ and becomes practically nil (1%) at 350 mμ. In this range, the crystalline lens chiefly is responsible for the absorption. The cornea, however, absorbs most of the radiation of wave lengths shorter than 300 mμ. Thus, the portion of total ultraviolet radiant energy incident on the outside of the eye which reaches the anterior surface of the lens consists of wave lengths of approximately 320 mμ or more, while that reaching the anterior surface of the retina consists largely of wave lengths greater than 390 mμ.[7]

Clinical Effects

Clinically, the abiotic effect of ultraviolet radiation is essentially a photo-chemical denaturation of proteins. The typical reaction appears only after a latent period of generally six to eight hours and is characteristically manifested by the development of erythema. This can be induced by the wave band from approximately 180 to 320 mμ. The cellular manifestations are most often an inhibition of mitosis, a nuclear fragmentation and an eosinophilic reaction in the nucleus and cytoplasm of the cell. Because the reaction is dependent on the absorption of energy, a critical threshold of wave length and of intensity of radiation is necessary to excite it. In practice, the degree of reaction varies directly with the time of exposure, inversely with the square of the distance of the source of light and directly with the cosine of the angle of incidence.[4]

As might be expected, the cornea of the eye, along with the conjunctiva, is selectively affected by the non-penetrating forms of radiation such as the ultraviolet rays. The most common injury arising from ocular absorption of radiant energy is, in fact, that caused by ultraviolet radiation. Because the atmosphere absorbs most of the ultraviolet radiation emanating from the sun, the ultraviolet content of solar radiation at the surface of the earth seldom exceeds 1% or 2%. However, sunlight reflected from the sky, sea, sand or snow may contain 4% to 6% ultraviolet radiation, thus, constituting an additional hazard source. Other dangerous sources of ultraviolet radiation are carbon arc lamps, arcs used in welding, lamps used for tanning the skin and bacteriocidal lamps. Injuries from these sources may be by means of reflected radiation as well as by direct viewing. In regard to the energy released by an atomic bomb explosion, most of the ultraviolet radiation occurring with detonation is absorbed by ozone which is formed by the explosion and does not cause injury.[8]

The effects of ultraviolet radiation on the cornea are well classified clinically and are included in the entity called photo-ophthalmia. The lesion consists of punctate erosions of the epithelium on the exposed portions of the cornea and conjunctiva. As in the case of the skin, the symptoms appear after a latent period of from five to eight hours but, unlike the skin, no tolerance is acquired by repeated exposures. The patient's symptoms are relatively severe and are incapacitating at the time, but they seldom lead to permanent disability.[9] They are characterized by a foreign-body sensation in the eyes which rapidly progresses to severe pain. Marked photophobia, ciliary spasm and severe blepharospasm develops after several hours. The condition is self-limited with recovery usually complete within 24 to 48 hours. The extreme sensitivity of the eyes to light makes examination difficult, but it can be facilitated by the instillation of a topical anesthetic. Objectively, the conjunctiva is diffusely congested and there may be a central corneal haze. In regard to treatment, repeated instillations of topical anesthetics should be avoided. Topical instillation of a steroid ophthalmic solution is beneficial in relieving the symptoms and in reducing the severity of the inflammatory reaction. If ciliary spasm is contributing materially to the symptoms, topical instillation of a short acting, cycloplegic ophthalmic solution, such as homatropine, is indicated.

Phototherapy utilizing the ultraviolet portion of the electromagnetic spectrum produced by a Kromayer lamp is recommended by some authors in the treatment of indolent corneal ulcers, chronic infective conjunctivitis, chronic relapsing scleritis, and the later stages of keratitis and iritis.[10]

Nucleoprotein absorption of ultraviolet radiation is by the DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) molecules and is manifested in the cornea by the specific absorption by the corneal epithelium of wave lengths of approximately 265 mμ.[5] The action spectrum of ultraviolet keratitis reveals a sharp peak at 288 mμ and falls off to approximately zero at 305 mμ on the long wave end and reaches a minimum of 260 mμ at the opposite end. It is to be noted that the action spectrum of ultraviolet keratitis does not correspond exactly to the absorption spectrum of nucleoprotein. The effect of ultraviolet radiation on the corneal epithelium, therefore, is probably due to absorption either by some substance other than nucleoprotein or by some constituent of nucleoprotein, but not by the molecule as a whole.[11]

There is little doubt that ultraviolet radiation can cause profound changes in the lens if the radiation in sufficient intensity reaches the lens. However, the amount of ultraviolet radiation necessary to produce a threshold response in the lens has been determined to be three times that required for a threshold response in the cornea.[8, 9]

The ultraviolet wave band has not been shown to produce any organic lesions of the retina because the shorter ultraviolet rays of 200 mμ to 320 mμ, with their manifest abiotic effect, do not reach the retina in sufficient amounts to produce a lesion. It appears unlikely that ultraviolet radiation could have any harmful effect to the retina without complete destruction of the anterior portions of the eye.[8, 9] Although it is questioned whether exposure to ultraviolet wave lengths as long as 365 mμ adversely influences the dark-adaptation threshold of the eye, a disturbing blue haze often has been reported by airmen when fluorescent lights are used in aircraft-cabin illumination.[9, 12] Fluorescent lights do emit some ultraviolet rays which extend as far down the spectrum as 303 mμ. Such radiation can result in some fluorescence of the cornea and lens which could conceivably cause a reduction in dark-adaptation.[13] Because the lens selectively absorbs most of the ultraviolet radiation of wave lengths longer than 303 mμ, the scotopic sensitivity of the aphakic eye for radiation of 365 mμ has been found to be 1,000 times that of the normal eye. Therefore, aphakic subjects often are able to read a Snellen visual acuity test chart illuminated by this radiation at an intensity such that the chart is completely invisible to a normal observer.[14]

Space Related Aspects

While the solar ultraviolet intensity on the surface of the earth is dependent on such factors as the time of day, time of year, altitude, atmospheric composition, latitude and thickness of the ozone layer, none of these operate in modifying the ultraviolet solar spectral energy composition at points in space beyond the earth's atmosphere. With man's exploration of space, this radiation environment has become a concern to medicine. It is known that the spectrum of direct and reflected solar ultraviolet radiation in space is heavily charged with rays having wave lengths from 10 to 300 mμ. However, because of the relatively low penetrability of ultraviolet radiation, particularly in wave lengths shorter than approximately 260 mμ, this author believes it to be desirable and feasible to screen out wave lengths below 375 mμ by means of radiation shielding in an astronaut's suit, helmet, capsule and especially in the visually transparent helmet visor and capsule viewing port. This can be accomplished by either reflection or absorption methods. Reflective lenses are made by laminating a thin layer of metal, such as gold, silver or platinum, between layers of spectacle glass.

Absorptive lenses generally consist of a mixture of glass and metallic oxide such as cerium iron oxide. In this regard, crown optical glass 2 mm in thickness can effectively filter out ultraviolet wave lengths shorter than 300 mμ.[14]

Summary

Although the beneficial effects of sunlight have been appreciated by man since early recorded time, fruitful efforts at studying the physical and biological effects of ultraviolet radiation date from the late 19th century. Ultraviolet radiant energy exerts its biological effect by absorption into the intramolecular periodic system of the exposed tissues producing a photo-chemical denaturation of proteins which can result in an abiotic lesion. The typical clinical reaction appears after a latent period of generally six to eight hours and is characteristically manifested by the development of erythema and pain. Photo-ophthalmia induced by ultraviolet radiation consists of punctate erosions of the epithelium of the exposed cornea and conjunctiva. It is accompanied by marked photophobia, ciliary spasm and blepharospasm. The symptoms are severe and incapacitating at the time, but the injury seldom results in permanent disability.

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Glue Sniffing (Cont'd)

tute material be used around children. We also can teach how to detect "glue intoxication."

3. Organize civic-minded groups to quietly work for control of the sale and distribution of these chemicals.

4. Give any case report of glue intoxication as little publicity as is possible. Publicity seems to bring it to the attention of the restless juvenile who is only too eager to try something "new" or "way out."

5. Finally, and most important, seek the causes of the adolescent's need for this drug and help remedy that problem.

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Congenital Vaginal Occlusion

Case Reports

Congenital vaginal transverse septae are gynecologic abnormalities which may present at various levels in the vagina and produce partial to complete occlusion. The incomplete congenital proximal vaginal occlusion is the most commonly encountered. Complete occlusion at the vaginal introitus (imperforate hymen) is the more prevalent complete occlusion, and diagnosis and management are not as difficult as the proximal complete vaginal occlusions.

Complete transverse vaginal septum is an infrequently encountered gynecologic abnormality; incidence is difficult to determine varying from 1:30,000[1] to 1:72,000.[2]

Incomplete or perforate vaginal occlusions may present with several symptoms, the more common being dysmenorrhea, dyspareunia, infertility and soft tissue dystocia. Complete imperforate vaginal septae, however, present with more typical symptoms. In the neonate, mucocolpos due to accumulation of vaginal secretions behind the vaginal septum may occur. In the absence of vaginal secretion, the condition will be asymptomatic until the menarche, at which time amenorrhea with cyclic intermittent abdominal pain may occur. Pelvic examination may reveal a complete transverse vaginal septum at various distances along the vagina.[3] The cervix and corpus uteri may or may not be palpable per vagina and a bimanual pelvic examination and rectal examination must be performed to assist in delineating the configuration of the internal pelvic genitalia, the thickness of the vaginal septum and the extent of any hematocolpos. If the anatomy is unclear, perineoscopy and complete colpophysterosalpingography may be used to differentiate the vaginal septum from vaginal agenesis in which the uterus, cervix and adnexae are usually absent. Intravenous pyelography must be performed to assess the possibility of urinary tract anomalies which occur more frequently with vaginal agenesis than with transverse vaginal septae[4] and which most frequently include renal agenesis, renal ectopia, pelvic kidney or ectopic ureter.

The following three cases are illustrative of the problems.

Case Reports

Case # 1. (Fig. 1) The patient was a 13-year-old single, white female gravida 0 with primary amenorrhea. She complained of lower abdominal cramping without fever or chills for two months prior to her admission in June, 1961. One month prior to admission to the University of Missouri Medical Center, she was admitted to another hospital where "one gallon" of dark blood was removed after incision under general anesthesia of an "imperforate hymen." For the following month, the patient noted black to red vaginal discharge which required four to six pads per day and was associated with severe suprapubic and sharp lower abdominal pain. She became febrile (104.6 F) five days prior to admis-

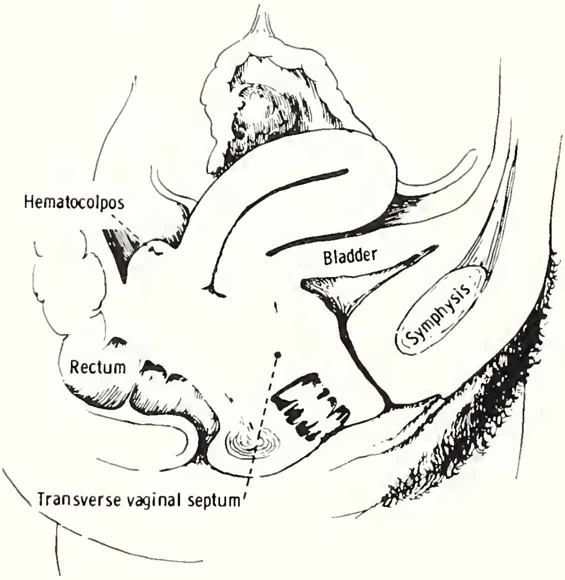

Fig. 1 Case # 1. A thick transverse vaginal septum with hematocolpos.

Report of three cases of complete transverse upper third vaginal septae. The authors discuss the embryology of these septae and other vaginal anomalies, as well as methods of diagnosis and surgical correction. It is their recommendation that proper delineation and correction often are best accomplished by combined abdominal-vaginal surgical approach. Doctor Griffin is Assistant Professor in the Department of Obstetrics and Gynecology, University of Missouri School of Medicine. A senior medical student at the time this paper was written, Doctor Smith is now interning in Denver, Colorado. This paper was presented at the District Seven Meeting of the American College of Obstetrics and Gynecology in November, 1967.

sion. There was no history of dysuria, hematuria or flank pain, but she had always had enuresis. She was born with a cleft palate which was repaired in a two stage procedure. Her physical examination was essentially negative except for tenderness in the lower quadrants and midline without spasm but with a questionable suprapubic mass. Pelvic examination was deferred until anesthesia could be used. A vaginal swab culture grew out Proteus mirabilis. Intravenous pyelography revealed an essentially normal upper urinary tract, but there was noted to be a mass rising out of the pelvis which had an air fluid level present. Cystoscopy revealed ureters which were displaced inferiorly. On June 19, the patient was taken to the operating room. Under general anesthesia, a pelvic examination revealed an open hymen with small introitus and a vault approximately 4 cm deep ending in a blind pouch. Superior to his pouch, a 10 cm × 10 cm mass was palpated rising out of the pelvis which obscured the uterus and ovaries. On recto-vaginal examination, the rectovaginal septum was quite thin and a mass was palpated in the upper third of the vagina. Through a modified Churney incision, a large hematocolpos was incised and drained. The vaginal septum, approximately 2 cm thick, was opened and a 4 cm plastic drain was inserted through the septum and out of the introitus and was sutured in place. The vaginal incision was then closed. The uterus, ovaries and tubes were all normal. On the sixth postoperative day, the plastic drain was removed and replaced by a 2 cm hard rubber drain which was left in place until it was felt that the incision would not close. The patient then was instructed in daily dilatation of the septal incision site. The patient made an uneventful recovery and was discharged July 6. Menses have been cyclic and without pain since.

Case # 2. (Fig. 2) An 18-year-old gravida 0 white female was admitted to the hospital on July 16, 1961. She complained of an inability to stand or walk at times. Her menarche was at age 14 with an interval of 28 days, a duration of five days and required four to five pads per day. In November, she had had a five day period of moderately heavy bleeding followed by a dark vaginal discharge and was treated with various hormones and thyroid tablets by her family physician. She had noticed increasing dysmenorrhea in the last year. General physical examination revealed obvious difficulty in motor control, no acute distress, mild obesity, mild kyphoscoliosis and highly arched feet with dorsiflexed toes. Pelvic examination revealed normal nulligravida external genitalia. The vaginal examination revealed a double vagina. The entire superior apex was occupied by a small, poorly circumscribed fluctuant area which was non-tender. The uterine corpus was difficult to delineate. The fluctuant mass did not extend down the vaginal wall.

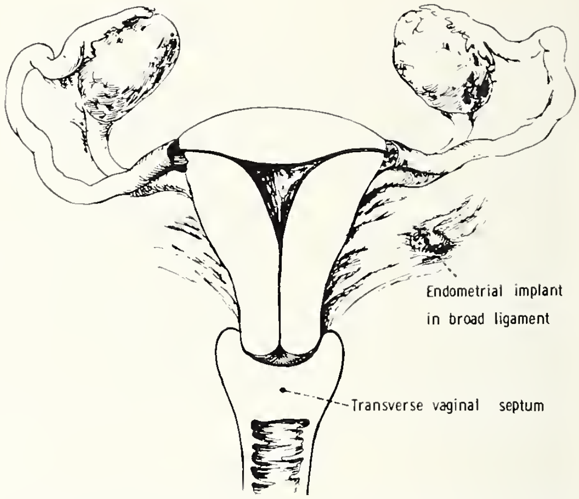

Fig. 2 Case # 2. Thick transverse septum without hematocolpos.

She was initially admitted to the Medicine Service where her neurological problem was evaluated and believed to be Friedrich's ataxia. Following this, she was transferred to the Gynecology Service. An intravenous pyelogram revealed absence of the right kidney. Pandendoscopy and retrograde pyelography revealed normal left ureteral orifice; the right was not visualized and the urethral orifice was normal. Pelvic examination under anesthesia was performed and a bicorunate uterus was palpated, with a fluctuant mass in the right broad ligament area which extended down even with the cervix. An exploratory laporatomy revealed an absent right kidney and ureter, a bicornuate uterus with normal right and left adnexae and double cervix. The fluctuant mass was a hematocolpos behind a high transverse vaginal septum on the right which was incised from above. The vaginal septae were excised and closed, putting both cervices in the normal vagina. The patient did well postoperatively and four years later was having no problems with her reconstructed vagina.

Case # 3. (Fig. 3) A 17-year-old white, single, nulligravida female was admitted Aug. 11, 1964 for pelvic pain and primary amenorrhea. The patient had consulted her family physician five months prior to admission with the same complaint and was placed on cyclic hormone therapy without pelvic examination. Two months later, she consulted another physician, who on pelvic examination was able to palpate the cervix but was unable to visualize it. He referred her to the University of Missouri Medical Center with a tentative diagnosis of vaginal atresia. Physical examination was normal with normal female breast development and normal pubic and axillary hair. Pelvic examination revealed normal external genitalia. The vagina ended in a blind pouch superiorly without defects or openings. Bimanual examination revealed a mass believed to be corpus immediately superior to the vagina. Intravenous pyelograms were normal.

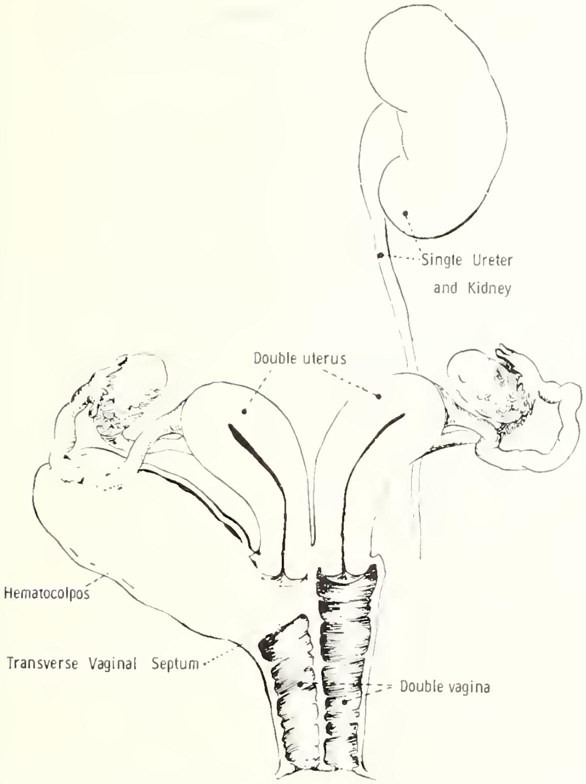

Fig. 3 Case # 3. Multiple anomalies associated with transverse vaginal septum.

On August 12, the patient was taken to the operating room where an exploratory laporatomy with excision of the transverse septum of the vagina through a hysterotomy was performed by abdominal and vaginal approach. A tube was placed through the cervix and incision site was sutured in place. A mass was excised from the broad ligament and found to be organizing hematoma and fat necrosis. She did well postoperatively, but failed to see her family physician for cervical dilatations. In October, she noted the onset of severe lower abdominal cramping pain and amenorrhea. She returned to the Medical Center and on examination there appeared to be complete occlusion of the cervix. She was taken to the operating room and the cervix was opened and a cervicoplasty was performed. Postoperatively, she had bi-weekly dilatations with a Hegar dilator, up to # 12.

A postoperative hysterosalpingogram revealed patent Fallopian tubes bilaterally. She had one period while in the hospital. Menses have continued to be cyclic to the present time.

Discussion

The vaginal canal has its origin in early changes in the primitive cloaca, which is occluded at its distal and by an ectodermal membrane. This closed cloaca is divided into a urogenital sinus ventrally and a closed cavity by a mesenchymal urorectal fold[2] which joins the closing membrane at the infolding of the distal surface of the genital tubercle between the anal pit and urethral groove (11 to 14 crown rump embryos).[6] During the second month, the cloacal membrane over the urogenital sinus breaks down, thus opening it into the urethral groove. During the third to fourth months, the mesenchymal urogenital septum from the upper ventral surface of the urorectal fold descends, constricting the lower urogenital sinus, and becomes the female urethra. The upper portion of the urogenital sinus will become the bladder.

At the distal ends of the Mullerian ducts, the epithelium of the urogenital sinus forms the sinus vaginal bulb which, in turn as it protrudes into the lumen of the urogenital sinus, becomes the Mullerian tubercle and at the end of the third month of gestation is at the level of the hymeneal ring and takes part of its formation. At this time, the vaginal lumen may be found by metaplasia of the urogenital sinus or it might be formed by reconalization of the fused caudal extremities of the Mullerian ducts.[6]

It was previously believed improbable that the pseudostratified columnar epithelium of the Mullerian duct was capable of metaplasia into the stratified squamous epithelium of the adult vagina and that this epithelium resulted from an upward extension of the urogenital sinus epithelium to cover and replace that of the Mullerian ducts. It has been demonstrated by Forseberg, however, that in the absence of the urogenital sinus, Mullerian duct epithelium in the mouse is capable of conversion to stratified squamous epithelium regardless of the level of the septum.

It is generally accepted, then, that the Mullerian duct anlage forms the upper four-fifths of the vagina, uterus, cervix and Fallopian tubes, and the urogenital sinus forms the lower fifth. A transverse vaginal septum may be the result of failure of canalization of the primitive vaginal plate, thus accounting for any of those septae formed in the lower fifth to lower third of the vagina or due to incomplete fusion of Mullerian ducts, explaining the septae occurring at various levels in the upper four-fifths to two-thirds of the vagina. Bowman and Scott believe that a transverse vaginal septum may arise secondary to an inflammatory process or to trauma from a foreign body in the vagina.[3] However, none of our three patients showed any signs of such a response. It is our feeling that it is unlikely that a true, complete transverse vaginal septum with normal vaginal epithelium and normal lumen distal and proximal to the septum could result from an inflammatory response or to a foreign body response.

Any type of uterine, cervical or vaginal anomaly may be associated with transverse vaginal septum including the single or normal uterus; septate uterus; bicornuate uterus; hemiuterus; double uterus; the single, septate, double or Lomi cervix or single; or septate or double vagina (Jones). Vaginal occlusion associated with the above are probably secondary to incomplete fusion of the Mullerian ducts.

If all diagnostic procedures substantiate the existence of a complete transverse vaginal septum with normal pelvic organs, the treatment of choice may be, of necessity, a two stage procedure. The first stage, if technically feasible, is a cruciate incision from below with drainage of the hematocolpos to allow the uterus and adnexae to slowly regain their normal anatomic size and position. A vaginal Z plasty can be performed later.[7] Drainage must be adequate or severe infection may cause considerable morbidity. When, however, the diagnostic studies are inconclusive or thickness of the septum makes vaginal dissection alone precarious, adequate and anatomic repair may require an abdominal-perineal approach, not only to adequately delineate the transverse septum and completely repair it with safety to the adjacent structures but also to assess directly the pelvic organs and repair any additional anomalies.

Summary

(1) Three cases of complete transverse upper third vaginal septae have been presented.

(2) The embryology of these septae and other vaginal anomalies have been discussed.

(3) The methods of diagnosis and surgical correction have been presented.

(4) Proper delineation and correction are often best accomplished by combined abdominal-vaginal surgical approach.

This direct visual delineation and repair of the septum and coexisting anomalies enables the gynecologist to more adequately inform the patient of her subsequent need for vaginal dilatations. It especially enables him to outline with some accuracy her reproductive prognosis.

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The Hazards of Hypospadias

Hypospadias, one of the more common genitourinary anomalies, has too often been considered a condition of little more than cosmetic importance. It is all too evident from the literature and our own clinical experience that the cosmetic aspects of the abnormality are perhaps least significant and that other complicating factors, particularly those of ambiguous sexuality and obstructive uropathy, are so poorly understood that they pose treacherous and possible life-threatening hazards to the hypospadiac child.

During the past seven years, we have seen 98 children with hypospadias in its various forms and degrees of severity and we have been continually impressed with the great variety of diagnostic problems and therapeutic difficulties which have been encountered. A survey of these hazards of hypospadias may serve to emphasize the complexity of the condition and instigate the concern which should be accorded any male urethra or phallus which is not entirely normal in appearance.

A substantial proportion of the therapeutic hazards of hypospadias are iatrogenic and derive from inadequate or inappropriate surgery. Unwitting diagnostic errors, however, are often more serious and troublesome.

Diagnostic Hazards

Abysmal consequences can result if it is not kept firmly in mind that any degree of hypospadias may well represent the only immediate evidence of a disorder of sexual development. Almost any hypospadiac infant can have intersex defects. Approximately 15% of our cases have had ambiguous genital development and have included at least three true hermaphrodites as well as an assortment of adrenogenital-progestational genital abnormalities (Fig. 1) and gonadal dysgenetic hermaphroditism.

The importance of careful examination and a high degree of suspicion in even the mildest types of genital or urethral maldevelopment is exemplified by one of our little girls with the adrenogenital syndrome who had fusion of the labial folds and cutaneous covering of the urethral groove throughout the entire length of the enlarged clitoris, so that there was no visible abnormality in the gross appearance of the urethra (Fig. 2). Palpation of the under surface of the phallus and of the urethra indicated that there was a deficient corpus spongiosum and that this represented more than just a juxtaglandular hypospadias.

Although it is usually in the more severe degrees of hypospadias, such as the peno-scrotal or perineal, that the index of suspicion regarding ambiguous sex should be high, there is no doubt that any degree of hypospadias mandates the exclusion of female genital duct structures and gonadal tissue, particularly if it is associated with corpus spongiosal deficiency or without two testicles of appropriate size and texture in the scrotal compartments. Perineal hypospadias in its most severe form can exist in a male child, but the burden of proof is upon the examining physician.

Impressed with the variety of diagnostic problems and therapeutic difficulties they encountered in cases of hypospadias in 98 children, the authors present this survey of the hazards in an effort to emphasize the complexity of the condition. They also discuss the importance of careful examination and a high degree of suspicion in even the mildest types of genital or urethral maldevelopment and the management of hypospadias. Doctor Thompson is Chief of the Section of Urology in the Department of Surgery and Doctor Baker is Resident Physician in Urology at the University of Missouri School of Medicine.

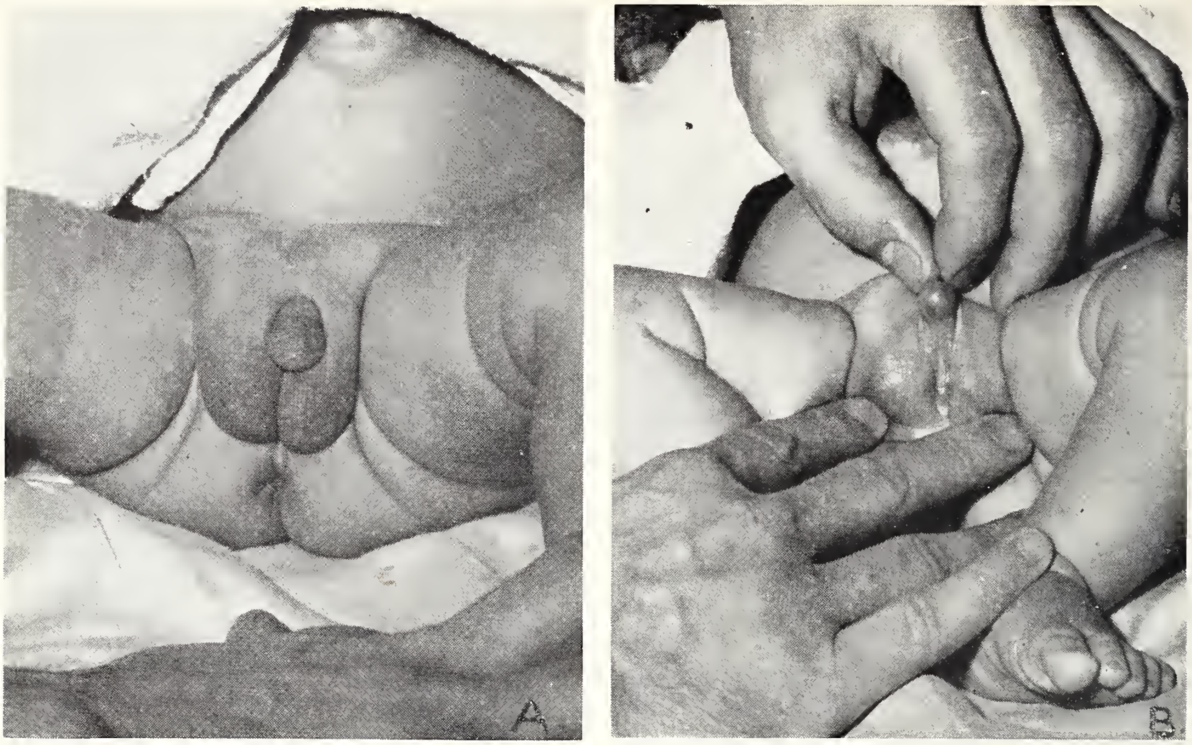

Fig. 1 (A) Male appearance of external genitalia in a female with the adrenogenital syndrome. (B) The phallus is simply an enlarged clitoris.

In every case of hypospadias, examination should include nuclear sexing, preferably in more than one tissue and on serial examinations. A genitogram or retrograde injection of radiopaque medium into the urogenital sinus or urethral opening of the hypospadias should be done to delineate the extent and configuration of any urogenital sinus, vagina or other duct structures, such as the cervix, uterus and tubes, should they be present (Fig. 3). Endoscopy must be carried out to define the presence or absence of a prostatic urethra with its characteristic landmarks and to further explore or interpret any finding in the genitogram which may be confusing. Excretory urography should be done in every case in view of the increased incidence of other congenital anomalies in the urinary tract. Even in the presence of a gonad in each scrotal compartment, the excretory urogram and the genitogram should be carried out in addition to the nuclear sexing. If the genitogram is abnormal or if gonads are not present bilaterally in the scrotal compartments, then the entire group of studies, including chromosome analysis and 17-ketosteroid excretion, should be done as

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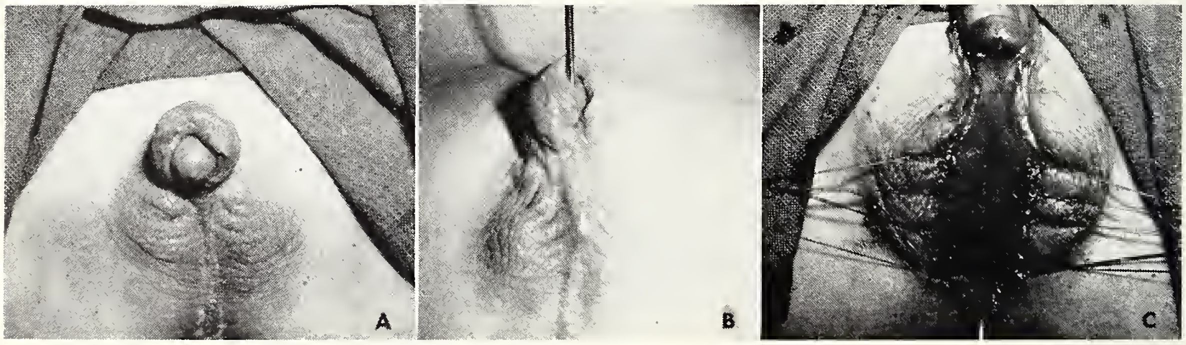

Fig. 2 (A) A girl with the adrenogenital syndrome and a complete male appearing urethra. (B) The urethra has no corpus spongiosum and is only covered with skin. (C) The urethra opened back to the vagina.

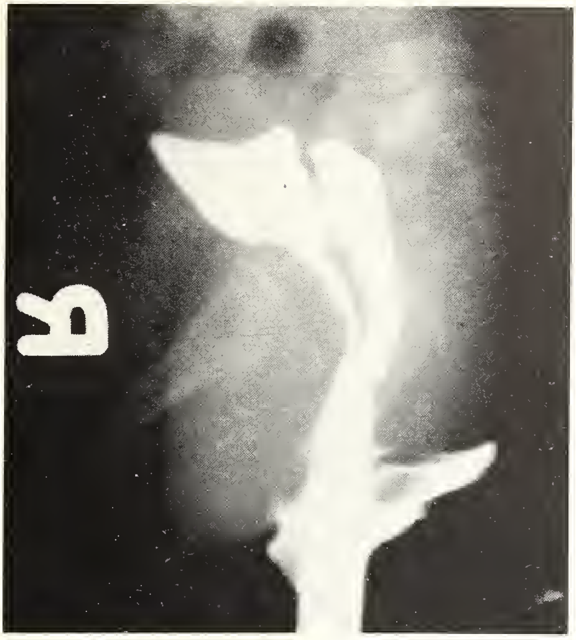

Fig. 3 Genitogram demonstrating a vagina in a supposed hypospadias.

promptly as possible. The reason for doing this as soon as the infant's condition permits or when the patient is first seen is to permit expeditious establishment of the most appropriate sex for rearing and to avoid confusion in the family regarding the actual sex of the child.

A number of children referred to us as hypospadiacs have been examples of this hazard of ambiguous external genital development and potential inappropriate assignment of sex for rearing. Although the diagnosis and management of all variations of disorders of sexual development or intersex is not germane, it must be constantly reiterated and reemphasized that a hypospadiac is a hypospadiac only when disorders of sexual, genital and genital duct development have been ruled out.

A wide variety of other congenital anomalies in the genito-urinary tract are more frequent in the hypospadiac child: cryptorchidism, bifid scrotum, renal agenesis and duplication anomalies of the collecting systems have been frequently noted and were prominent (26%) in the group of patients we have observed. Among the non-urologic congenital defects in our patients (19%), mental retardation occurred in nearly 10% with occular defects and imperforate anus perhaps uniquely prevalent.

Meatal stenosis, which ordinarily would be considered to be a congenital anomaly distinct of itself, is so frequently a concomitant in instances of hypospadias that it can be categorized as a component part of the condition. Meatal constriction is very common in hypospadias and particularly so in the more distal types. Although the major hazards of meatal stenosis are referable to inappropriate therapeutic procedures, it is important to stress the diagnostic aspect since, if it is unrecognized, a severe degree of stenosis can produce troublesome obstruction.

Therapeutic Hazards

The therapeutic hazards in hypospadias, which are many and can be quite severe, stem from incomplete or inadequate diagnostic study, poor surgical technique and, more pertinently, improper post-surgical follow-up to assure the patient that the urinary defect has been appropriately managed. In regard to this last point, it seems singularly inappropriate for hypospadias repair to be undertaken by anyone who is not completely competent in endoscopy and the diagnosis and management of urinary tract obstructions. Post-repair strictures do occur, and significant obstructive uropathy can result insidiously despite a pleasing cosmetic appearance (Fig. 4). The urethra is a part of the urinary tract and the patient who has had urethral surgery must be followed meticulously with urethrographic and, often, endoscopic evaluation for a number of years after repair to make certain that stricture or other complications do not occur.

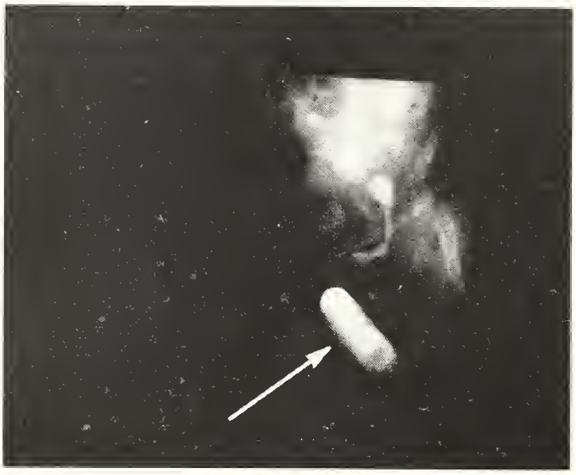

Fig. 4 Urethrogram showing massive dilation of urethra proximal to post hypospadias repair stricture.

Incomplete or inadequate diagnostic study can be disastrous should the hypospadiac child be an intersex. The senior author devised the tech-

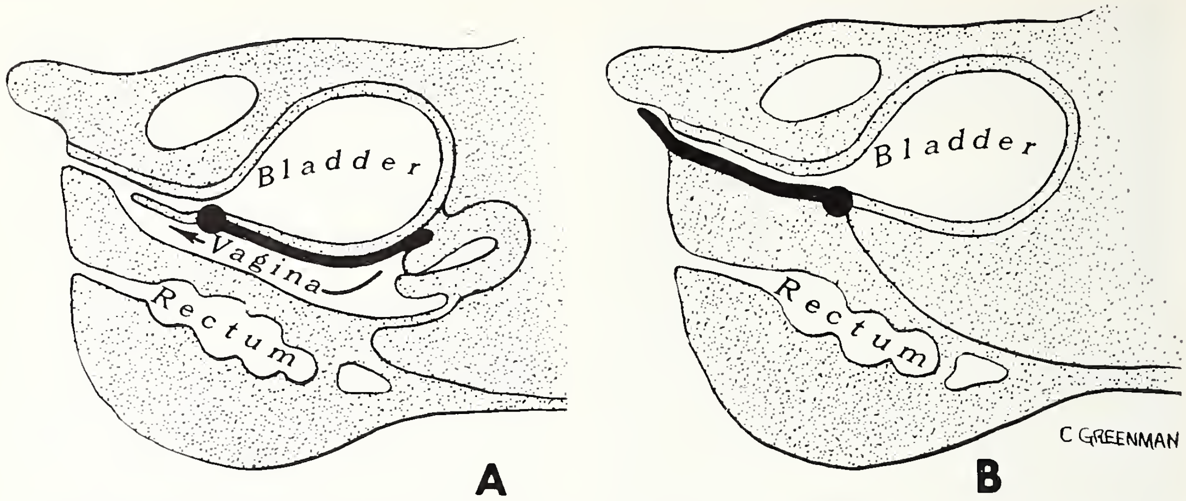

Fig. 5 (A & B) Diagram of vaginal flap urethroplasty utilizing vaginal wall to form the urethra when the uterus must be removed.

nique of vaginal flap urethroplasty[1] a number of years ago when faced with the problem of a 12-year-old child, who was raised as a boy, was found to be an example of the adrenogenital syndrome (Fig. 5). The operation, with extirpation of female genital duct structures, has been done on three of the current series of patients for reasons at least partially related to inadequate diagnosis during infancy and early childhood. This can be an appalling situation if it occurs in females with the adrenogenital syndrome in whom only steroid manipulation is required to rectify the problem.

Insufficient diagnostic evaluation, of course, can delay the demonstration of many of the major urinary tract anomalies so frequently associated with hypospadias. Since they are often obstructive, this delay can permit insidious deterioration of renal function.

The need for avoiding circumcision in the hypospadiac patient, so that the prepuce may subsequently be used during reparative surgery, has been widely disseminated. In the more distal types, however, the temptation to take a stitch or two in the foreskin to cover the juxtaglandular meatus apparently has been difficult to resist since we have seen a number of instances of preputial wastage from these ill-advised and unsuitable procedures.

Management of Hypospadias

The management of hypospadias must conform to the strict disciplines of reconstructive surgery and the basic principles for urinary tract repair. Although the surgical techniques with serious inherent deficiencies, such as those which incorporate hair-bearing skin in the urethra, have been winnowed out, the procedure of choice must be tailored to the type of defect and the cutaneous material at hand. All hypospadiacs differ, particularly those who have been previously and inappropriately surgically assaulted, so that only wide experience can provide the answer to the particular reconstructive problem each individual presents. The surgical concerns are to secure a straight penis and a meatus at as distal a position as possible, but they are primarily to achieve an unobstructed urethra. This occasionally can be accomplished in a single stage, but more often it will require two or three stages. It is imperative that the surgeon be completely satisfied with the long term results of the urinary tract reconstruction.

The hypospadiac child must be thoroughly studied to avoid misinterpretation of sex and to avoid neglect of concomitant anomalies; he then must be managed in a surgical fashion concordant with his deformity. Finally, he must be observed for a sufficient period of time to guarantee that his genital and urinary functions are normal.

Acknowledgement: The authors wish to acknowledge the important contribution of the Missouri Crippled Children's Service and Dr. R. C. Arnold, Medical Director, without whose assistance prior and continuing study of children with hypospadias could not be consumated.

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In Memoriam

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Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

Doctor . . . .

Have YOU Returned Your Questionnaire?

The American Medical Association urgently requests the prompt cooperation of all physicians in filling out the special questionnaire which was included in the March 18 issue of *The AMA News.*

This information is needed to verify the AMA's biographical-historical records before they are put on a new data processing computer system. It also will be used to update your biographical record in the 1969 (25th) edition of the *AMA Directory of Physicians.*

Every one of the 311,000 physicians in the United States and its possessions is being asked to complete this verification form and return it to the AMA as soon as possible.

Complete instructions accompany the questionnaire. Please answer the questions and return your questionnaire to the AMA today.

President's Message

Missouri Medicine surprised me with an unusual request! The Editors of our statewide journal asked me to submit my first "President's Message" by March 1 (the regular copy deadline), even though I would not be your President officially until April 1. This was necessary, of course, because of the late-in-March meeting dates of our Annual Session.

I am happy to comply with this request, but must explain one difficulty involved. As you know, the business of the MSMA President and Council is predicated upon the guidance of the House of Delegates, yet the meeting of the House will not occur until after this message has been written. So, I will not presume here to anticipate their decisions or suggest courses of action at this date.

David N. Kerr, M.D.

First, I would like to take this opportunity to introduce myself to those of you who do not know me. I am a practicing internist with offices in Clayton and am on the staffs at Barnes, St. Luke's, Deaconess and Mount St. Rose Hospitals in St. Louis. I have been active at the state level of organized medicine as a Delegate to the MSMA from the St. Louis Medical Society for 15 years. I have served on MSMA Reference Committees and the Tuberculosis Committee, as a Vice-President, Third District Councilor, Vice-Chairman of the Council and, in 1965-1966, Chairman of the Council. As a solo practitioner with a one-girl office, I often have felt more akin to those of you in the rural areas than I have to my local colleagues, but I must thank these same colleagues for their high degree of support and friendship. I enter into the office of President with a deep awareness of the honor conferred upon me by all of you and a humble dedication to do the best I possibly can.

The chief problems facing us in the coming year will be present regardless of the actions of the House, and I am confident that meaningful actions will have been taken by them by the time you read this. I believe that the three governmental programs that demand our study and in which we must consider our place and our degree of participation are (1) the Heart, Cancer and Stroke Program, which is already underway in out-state areas, but still trying to get its feet on the ground in the St. Louis metropolitan area; (2) the newly-introduced Comprehensive Health Planning Program for which social planners are calling the shots and suggesting that our profession is the one to which they hope to turn for advice and help, meanwhile seeing fit not to appoint practicing physicians to their Boards, and (3) the Manpower Program which is just getting under way.

These programs must be watched closely and must have medical profession representation by the private practitioner. It is not sufficient to press only for physician representation, however. We also must prepare a thorough policy structure to guide our representatives—a policy that spells out what exactly organized medicine can and cannot approve in the functions of these various organizations.

Here are the big jobs for this year, all of which have been given a fine start by the efforts of my predecessor, Dr. Hector W. Benoit, Jr., who has organized the specialty groups into a liaison with our Economics Committee. This major and successful undertaking provides us with an excellent base of operations.

I congratulate Doctor Benoit for his outstanding leadership and thank him on behalf of the State Association. I only hope that I can carry on as effectively in the avenues he has opened. With the help of everyone of you, I know this can be done.

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DOW

Woman's Auxiliary

By the time this reaches the readers of Missouri Medicine, I will be serving in the capacity of President of the Woman's Auxiliary to the Missouri State Medical Association. I have accepted this responsibility with humility and gratitude—humility, because I know my limitations and gratitude, because of the confidence the members of the Woman's Auxiliary have shown in me.

"BETTER COMMUNITY COMMUNICATION" will be our theme for the year as we realize the manpower crisis in the health field. Dr. Dwight L. Wilbur, President-Elect of the AMA, told us at the National Conference that health care is the third largest industry in terms of people involved and money spent at the present time and will be the largest industry by 1975.

Mrs. E. F. Butler, President

The word, "Communicate," means to convey information. With this in mind, the Woman's Auxiliary will endeavor to always remember the following steps as a guide in our work this year:

1. Become knowledgeable about the problem.
2. Assist in any way possible in organizing and stimulating committees on health manpower at state and county levels, within both the medical associations and within the auxiliary itself.
3. Seek the cooperation of other interested groups, such as other health and medical associations, hospitals and their auxiliaries, extended care and home care groups, voluntary health agencies, educational institutions, health planning bodies and the public.
4. Assist medical societies in establishing positive leadership by determining the local needs and how they can be met.
5. Continue and increase activities to recruit young men and women into all of the health professions and occupations, aiming special efforts at the high school, junior college and university levels.

I shall ever be grateful to all the Past Presidents of the Woman's Auxiliary for the excellent ground work they have laid. I am especially indebted to Mrs. John M. Williams, the Immediate Past President, for her excellent leadership and the many courtesies she has extended to me this past year.

Success is a continuing, upward spiral of progress. It is perpetual growth. With the continued assistance of the Missouri State Medical Association, may the Woman's Auxiliary continue to be successful and to perpetuate in growth.

EDITORIALS

HEALTH CARE COSTS, WHY SO LITTLE . . .

It seems that too often we hear the expression "Why so much?" when the subject of medical costs, drug prices or hospital charges are mentioned. It is about time someone asks the question "Why so little?" and then answered it.

The facts about good health care costs are so amazing that there are some who want proof positive that the figures are real and not dreamed up to make a beautiful financial statement.

Consider the Doctor: Sixty years ago when the life expectancy was about 45 years—it is now about 70 years—a Doctor could open his office for about $1,000.00 and operate it for a whole year for probably another $1,000.00. Now, any Doctor having any kind of office space would pay more than that for rent alone. Many Doctors have an overhead of $24,000.00 per year or $2,000.00 per month—bills that must be paid before the Doctor can begin to earn anything for himself. The horse and buggy Doctor of 60 years ago spent an entire day on one 21-mile-away house call using a horse and buggy that cost less than $200.00. Today's Doctor's car (on the average) will probably cost $3,000.00 or 15 times as much as the horse and buggy of 60 years ago. On the basis of increased cost of operation and present prices, Doctors have not increased their charges as have bricklayers, plumbers, barbers, yard men or carpenters. Doctors' charges today are lower by comparison with the living cost index than they were in 1907, 1927 and 1947.

Now let us consider drugs—prescriptions. The average American last year spent $15.50 for prescription drugs at an average cost of $3.60 per prescription—and what did he get? Probably miracle drugs that put him on his feet in a matter of hours or days, even though he was suffering from an ailment that 60 years ago would have either taken his life or at least kept him incapacitated for weeks and weeks. During this past 60 years, the drug industry has tested millions of potential medicines to produce only hundreds of effective therapeutic medicines. At the present time, the drug industry is spending $1 million per day on research, yet, based on the past seven years, prescription drug prices have gone down 11%.

Because of lower cost, better products, miracle drugs—today there are 83,000 persons not in public mental health institutions that might well be there had the drug industry not developed AT ITS OWN COST the drugs that clear the mind and heal the body.

Hospital charges are a little harder to explain because so much of what the patient's dollar pays for is behind the scene. A modern hospital is a complete unit—almost a city within itself. It has its own kitchen, maintenance department, laundry, power plant, living quarters, laboratory, offices, pharmacy, chapel, heating and cooling systems—in addition to the things the patient comes in contact with—operating room, nurses' stations and rooms in which the patient stays. Few people realize that for every patient in the hospital, there are 2.7 persons behind the scene making the system function. During the past 20 years, the number of diagnostic laboratory tests have increased four times to support the new advanced developments and techniques for patient care.

For every cubic foot of bed room space, there are eight (estimated) cubic feet of space being used in support of the patients' area. Added to the cost of maintaining the facilities and paying this complement of personnel, the building itself must first be constructed and the cost of today's hospital is at least $35,000.00 per bed.

Considering the much longer life each of us can expect to live and considering the many medicines and techniques that make our life so much more comfortable, it is difficult to understand how any one can consider today's Doctors, drugs or hospital bills out of proportion to the "commodity" their dollar buys.

St. Louis County Medical Society Bulletin

OLD FRIENDS REVISITED

Recently it was our privilege and pleasure to call upon some old friends, an elderly couple who were about to celebrate their 64th wedding anniversary. We came away uplifted in spirit, impressed by their example, touched by their devotion to one another and inspired by the lesson that growing old together can be lovely and rewarding.

Though both were four-score-and-ten, they were immaculately groomed, were a gracious host and hostess and carried on an interesting conversation concerning old friends and current affairs. The still very pretty lady carries on with her music, playing the piano and organ. Her husband keeps occupied with ceramics, with painting and drawing and sketching. Both are blessed with keen minds and a delightful sense of humor. Though they have not been spared infirmity and illness, they do not dwell upon them.

These are friends who have faced the afternoon of life with a positive approach, rather than resignation to vacuous years. They are an inspiration and a joy to everyone.

Perhaps a greater effort by all who are concerned with the welfare of the elderly can help other people prepare for this period of their lives, and make them meaningful and happy years.

Journal of the Iowa Medical Society

FAMILY LIMIT—THREE CHILDREN

With the passage of legislation now before the Indian Government, 46,000,000 Hindu men will have to be sterilized. The purpose of this law is to limit every family to no more than three children and its proponents hope to put it into action by 1969.

The penalty for failure to comply with the proposed law includes higher taxes for large families, no free education for the fourth child, no free medical care and no family housing loans. Working women will not be permitted maternity leave after their third child.

When a government controls housing, medical care and education, the mechanics for any other kind of control are well established. The facts that India is far away and its problems seem foreign to those in the United States do not alter the historical observation that revolutionary trends are likely to begin in populous areas and if the original group survives, the concepts may spread to other societies.

C. B. DAWSON, M.D.
Editor-in-Chief
The JOURNAL of the Oklahoma State Medical Association

A REAL VALUE IN FELLOWSHIP

I was glad to learn through this bulletin (Dec. 16, 1967) of the discussions of doctors and clergy at Baptist Hospital because I am convinced that one of the greatest benefits of better doctor-clergy relationships is the resulting friendships. Doubtless, we can learn much from each other, and some things we can only learn together (such as the effect of a person's religious life on the course of his illness). But beyond knowledge there is what we can do for one another in terms of mutual respect, understanding and support.

To speak of physician and clergyman as members of a team may be misleading. They do not cooperate as members of a medical team. Neither is their cooperative work spiritual in the professional sense. It is best just to say that they are both members of that broad team of human beings who devote themselves to helping other suffering human beings. In this sense they are both ministers. They minister to those who suffer from illness.

To be sure, the physician ministers chiefly through his medical skill to do something about the illness, and the clergyman ministers through his spiritual skills to do something about the person's response to his illness. Yet both are acting on the same motive of compassion, the same desire to set things straight. And both are facing the same stubborn fact that often things can't be put straight and we have to make do as best we can. There is a deeper bond of comradeship here than we have yet realized.

Suffering does something not only to the one who suffers, but also to those who help, or even only stand by. It always raises questions. It always presents a challenge. But simply giving answers to the questions isn't enough, any more than simply accepting the challenge. The answers we give must determine our response to the challenge. The way we meet the challenge must furnish some answers to the questions. It is in facing human suffering, even their own, that doctors and clergy participate in a unique fellowship.

Therefore, when doctors and clergymen begin to struggle together with their common questions and challenges, a new dimension is added to their endeavor. As each begins to recognize the extent of devotion of the other, he finds a renewed sense of motivation and a new creative ability to work through unsolvable problems. In learning a new respect for his co-worker each finds a new respect for himself. Real comradeship in ministering to the suffering has the potential for keeping alive the courage, the honesty, the vision and the faith which are necessary to maintain an effective work.

Let us be sure that there is greater opportunity for such personal exchange, both formal and informal. It takes precious time, but it prevents the waste of precious life.

THE REVEREND WILLIAM N. BEACHY
Chaplain, St. Luke's Hospital
Greater Kansas City Medical Bulletin

Sustained circulatory, respirato
and cerebral stimulation for th

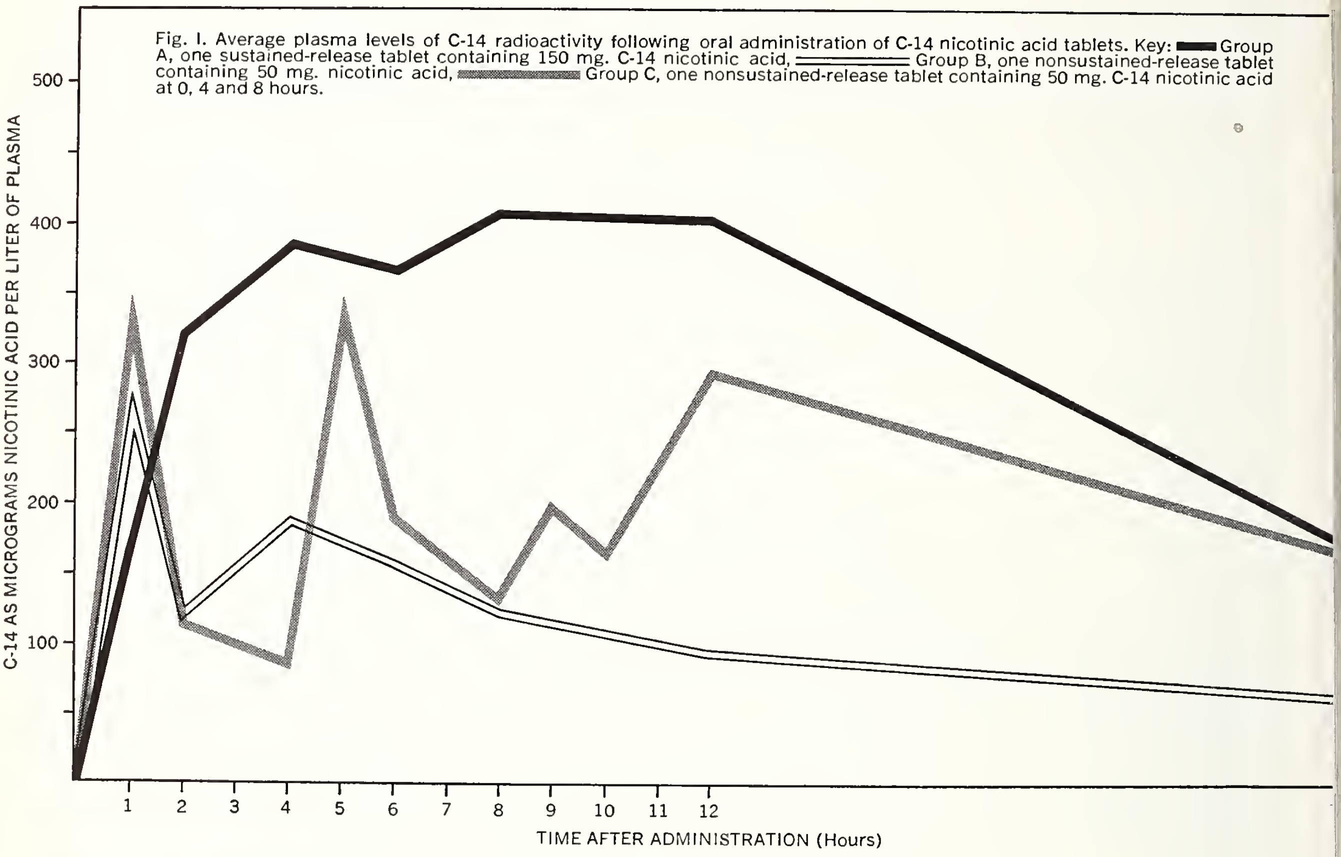

Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

(fewer absent doses by absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absentmindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazo TT will provide the well-known peripheral vasodilatation needed in patients with deficient circulation an with a minimum amount (if any) of "flushing." Also cerebrovascular circulation is complemented by pentylenetetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate signs of senile confusion. Patients become more alert

ged and debilitated

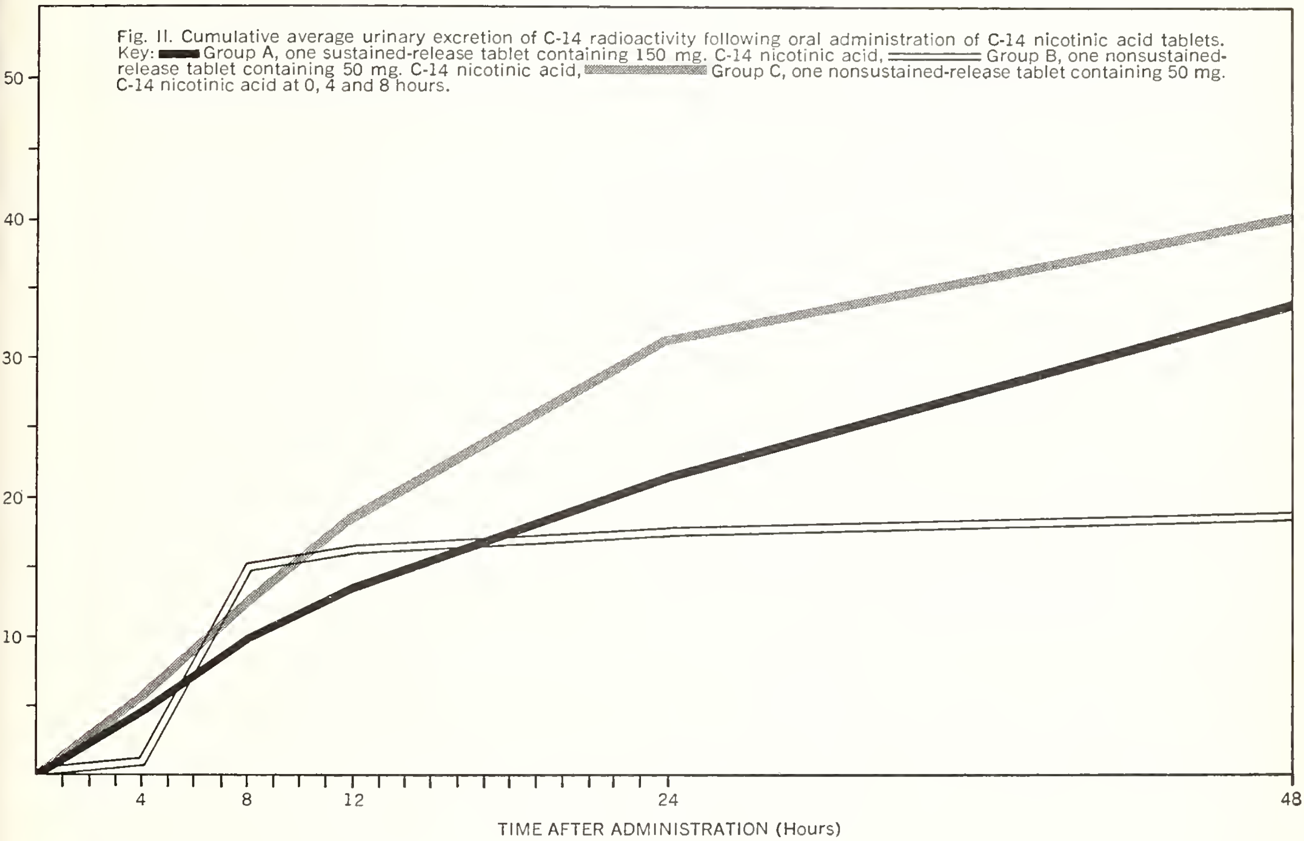

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

ss confused and moody. Personal care, memory, motional stability, social attention improve. Fatigue, pathy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will ermit your patients to enjoy the benefits of time-rolonged nicotinic acid/pentylenetetrazol therapy, t an economical price. Dosage is only one tablet every 2 hours.

ontraindications: There are no known contraindications.

recautions: Exercise caution when treating patients ith a low convulsive threshold.

Side Effects: Side effects are rarely encountered however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

BUCHANAN COUNTY MEDICAL SOCIETY

Forty-four physicians attended the Annual Heart Program of the Buchanan County Medical Society on February 7 in St. Joseph. Dr. Berwyn H. Moen, president, presided at the meeting.

Dr. Ernest E. Weinand, program chairman, introduced the guest speaker, Dr. Donald Dickhaus, who is associate professor of medicine at the University of Missouri School of Medicine. Doctor Dickhaus presented an illustrated paper entitled "The Current Status of Cardiology."

O. W. D. CRAIG, M.D., *Secretary*

SECOND DISTRICT

COUNCILOR
LYSLE M. BACH, M.D., HANNIBAL

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

Physicians of the Chariton-Macon-Monroe-Randolph County Medical Society heard three guests speakers at their meeting in February.

The Chariton-Macon-Monroe-Randolph County Medical Society held its monthly meeting on February 8 in Macon. Dr. Donald E. Eggleston of Macon, president, presided.

Dr. J. L. Winfield, assistant professor of medicine (dermatology) at the University of Missouri Medical Center, was guest speaker of the evening. His subject was "The Eczema Diagnosis," which he illustrated with color slides.

Other guest speakers included Mr. R. J. Heberholt of the General American Life Insurance Company who discussed the new Medicare legislation changes and Mr. Don Brummall, MSMA executive assistant, who explained his present duties for the Association and suggested ways in which he could assist the members of the Society.

CLARENCE C. COHRS, M.D., *Secretary*

FOURTH DISTRICT

COUNCILOR
ROBERT A. MAYER, M.D., ST. LOUIS COUNTY

LINCOLN-ST. CHARLES COUNTY MEDICAL SOCIETY

The Lincoln-St. Charles County Medical Society met on February 27 in St. Peters. An informative program followed the social hour and dinner.

Speaker for the evening was Mr. Richard Heberholt, physician coordinator for the General American Life Insurance Company, who discussed "Recent Changes in Medicare." A question and answer period followed his formal presentation.

Following the business meeting, Mr. Don Brummall, MSMA executive assistant from Jefferson City, spoke briefly about his duties with the MSMA and discussed current legislative activities in Missouri.

The meeting was adjourned.

VINCENT P. PERNA, M.D., *Secretary*

FRANKLIN-GASCONADE-WARREN COUNTY MEDICAL SOCIETY

The Franklin-Gasconade-Warren County Medical Society held a dinner meeting for members and their wives on February 6 in Union.

Following the dinner, members of the Society enjoyed an informative talk by Dr. Robert S. Cartwright, associate director of the Missouri Regional Medical Program. Doctor Cartwright discussed the Regional Medical Program and invited questions after his talk.

A business meeting followed the program, after which the meeting was adjourned.

DONALD L. BAKER, M.D., *Secretary*

Members of Franklin-Gasconade-Warren County Medical Society pose for MISSOURI MEDICINE following their meeting.

EIGHTH DISTRICT

COUNCILOR
DOYLE C. McCRAW, M.D., BOLIVAR

JASPER COUNTY MEDICAL SOCIETY

Dr. H. O. Loyd, medical director of the Missouri Division of Welfare, was a special guest at the February 13 meeting of the Jasper County Medical Society in Joplin.

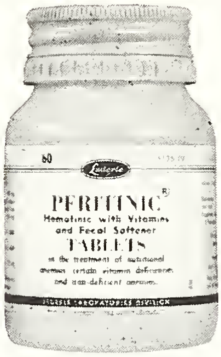
Doctor Loyd discussed various aspects of "Title XIX" and conducted a question and answer period following his presentation.

Mr. Ed Singleton, Chief of the Welfare Division's Bureau of Special Services, also was a special guest and spoke to the physicians.

The Society was especially honored to have Dr. Doyle C. McCraw, Councilor of the Eighth District, at this meeting. Doctor McCraw urged all members of the Society to attend the 110th

Dr. H. O. Loyd (second from left), medical director of the Missouri Division of Welfare, was a special guest of the Jasper County Medical Society. Appearing with him are Dr. Herbert J. Schmidt, Joplin, secretary; Dr. C. B. Schoeberl, Joplin, president; and Dr. Doyle C. McCraw, Bolivar, Councilor for the Eighth District.

anticostive*
hematinic



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Vitamin B_2	7.5 mg
Vitamin B_6	7.5 mg
Vitamin B_{12}	50 mcgm
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Niacinamide	30 mg
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anticostive, *adj.* (*anti* opposed to + *costive* causing constipation.) Against constipation. (Now isn't that a good idea in an iron-containing hematinic? We'll send you samples if you'll send a request on your Rx blank, addressed to Department 150.)

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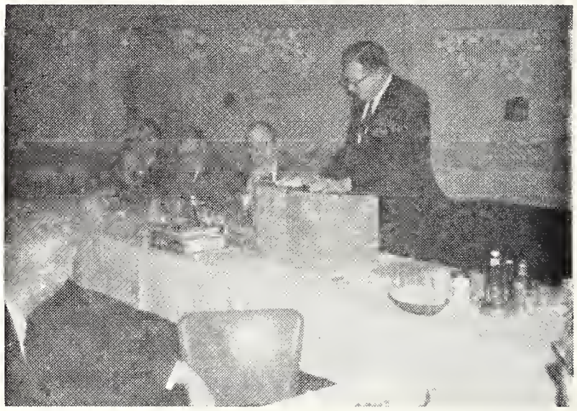
MSMA Annual Session on March 29-31 in Kansas City and described the highlights of the program and other activities scheduled for the 1968 meeting.

Herbert J. Schmidt, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Cape Girardeau County Medical Society



Dr. Harold B. Rapp, president of the Cape Girardeau County Medical Society, asks for nominations for the election of delegates and officers to the 110th MSMA Annual Session. He is assisted by Dr. James W. Terry, Jr., secretary, who is seated at his right.

The Cape Girardeau County Medical Society met on February 5 in Cape Girardeau. Forty-three members attended the social hour, dinner and program.

Mr. Don Brummall, MSMA executive assistant, was a guest at the meeting and spoke on recent MSMA activities of interest to the Society members. His subjects included legislation, Medicaid and the MSMA Annual Session to be held on March 28-31 in Kansas City.

Delegates to the Annual Session were elected at this meeting. They are: Delegates—Drs. Edwin K. Buford, Melvin Kasten and Harold Rapp of Cape Girardeau; Alternates—Drs. W. O. L. Seabaugh, Seth Barnes and Jo R. Cochran of Cape Girardeau.

James W. Terry, Jr., M.D., *Secretary*

SEMO County Medical Society

The SEMO County Medical Society met in Sikeston on January 21. Guests included attorneys from the four-county area; the nursing staff of the Missouri Delta Community Hospital; Mr. Harold Jones, administrator, and Mr. Pat Jones, assistant administrator of the Missouri

Members of the nursing staff of the Missouri Delta Community Hospital in Sikeston were among the honored guests at the SEMO County Medical Society meeting.

Delta Community Hospital; Mr. Jack W. Tipton, administrator of the Hayti Hospital; Mr. Jim Stricker, administrator of the SEMO Hospital in Cape Girardeau; Mr. David Ragan, administrator of the Sikeston Regional Diagnostic Clinic for the Mentally Retarded; and Mr. Don Brummall, administrative assistant of the Missouri State Medical Association.

Following the social hour and dinner, Dr. Wilson Ferguson, Sikeston, served as moderator for a panel which discussed a medical legal case. Mr. Robert Dempster, attorney, presented the legal aspects of the case.

Mr. David Blanton, attorney, discussed the Missouri Law and the liabilities of charitable hospitals. Mr. Harold Jones discussed the responsibilities of the hospital director and the administrator in regard to setting acceptable levels of practice. Dr. Frank Tull, Sikeston, discussed the legal case from an orthopedic point of view.

Dr. Stephen Parks, Sikeston, talked of the great need for consultation in medical practice and the duties of the consultant.

Thelma C. Buckthorpe, M.D., *Secretary*

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New Members

Bernard M. Abrams, M.D., 24th & Cherry Sts., Kansas City, has become a member of Jackson County Medical Society. Dr. Abrams is a native of New York, New York, received his preliminary education at the New York University and his M.D. degree at the New York University in 1959. He specializes in neurology.

Abraham Aronson, M.D., 150 North Meramec, St. Louis, has become a member of St. Louis County Medical Society. Dr. Aronson is a native of Chicago, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1935. He specializes in psychiatry.

Robert S. Cartwright, M.D., 605 Hulen Dr., Columbia, has become a member of Boone County Medical Society. Dr. Cartwright is a native of Santa Fe, New Mexico, received his preliminary education at Texas Technological and his M.D. degree at the University of Texas in 1946. He specializes in thoracic surgery.

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DOCTOR
Bill O'Malley

Charles S. Christianson, M.D., Missouri State Sanatorium, Mt. Vernon, has become a member of Ozarks Medical Society. Dr. Christianson is a native of Park City, Montana, received his preliminary education at Pacific University and his M.D. degree at the University of Oregon in 1943. He specializes in internal medicine.

Kendrick C. Davidson, M.D., 701 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Davidson is a native of Wellington, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1956. He specializes in radiology.

Earl Dick, M.D., 1420 Grattan, St. Louis, has become a member of St. Louis Medical Society. Dr. Dick is a native of St. Louis, received his preliminary education at Bayless University and his M.D. degree at Bayless University in 1966. He specializes in psychiatry.

Hal E. Marshall, M.D., 4949 Rockhill Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Marshall is a native of Wichita, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1960. He specializes in pathology.

Robert J. Meegan, M.D., 425 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Meegan is a native of New York, New York, received his preliminary education at the University of Virginia and his M.D. degree at the University of Virginia in 1961. He specializes in radiology.

James R. Miller, M.D., 1606 Grattan, St. Louis, has become a member of St. Louis Medical Society. Dr. Miller is a native of Peoria, Illinois, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1960. He specializes in pathology.

Edward J. Novak, M.D., 3600 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Novak is a native of New Britain, Connecticut, received his preliminary education at Idaho State University and his M.D. degree at Northwestern University in 1949. He specializes in physical medicine and rehabilitation.

David E. Payne, M.D., 804 Moon Valley Rd., Columbia, has become a member of Boone Coun-

(Continued on page 320)

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New Members (Cont'd)

ty Medical Society. Dr. Payne is a native of Kansas City, received his preliminary education at Yale University and his M.D. degree at the University of Missouri in 1964. He specializes in dermatology.

Thomas F. Richardson, M.D., 7508 Carondelet Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Richardson is a native of Evansville, Indiana, received his preliminary education at Millikin University and his M.D. degree at Washington University in 1963. He specializes in psychiatry.

Antonio B. Santillano, M.D., 634 North Grand, St. Louis, has become a member of St. Louis County Medical Society. Dr. Santillano is a native of Tacloban, Philippines, received his preliminary education at St. Paul's College and his M.D. degree at the University of Santo Tomas in 1957. He specializes in pathology.

Donald C. Schnellmann, M.D., 500 Northwest Plaza, St. Ann, has become a member of St. Louis Medical Society. Dr. Schnellmann is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1960. He specializes in ophthalmology.

Raymond H. Wilbers, M.D., 216 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Wilbers is a native of Westphalia, received his preliminary education at Lincoln University and his M.D. degree at the University of Missouri in 1963. He specializes in surgery.

Gerald Wool, M.D., 500 South Kingshighway, St. Louis, has become a member of St. Louis County Medical Society. Dr. Wool is a native of St. Louis, received his preliminary education at Princeton University and his M.D. degree at Washington University in 1962. He specializes in pediatrics.

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Drs. Felix, Danforth Head Bi-State Regional Program

Dr. Robert H. Felix, dean of the St. Louis University School of Medicine, and Dr. William H. Danforth, vice-chancellor for medical affairs at Washington University, have been appointed acting co-program directors of the Bi-State Regional Medical Program.

The appointments were announced by G. Duncan Bauman, chairman of the advisory committee of the Bi-State Regional Medical Program.

The regional medical programs were authorized under the Heart Disease, Cancer and Stroke Amendments of 1965 to the Public Health Service Act. The bi-state program was established through the efforts of a committee widely representative of physician groups and public and private health agencies.

The committee originally was sponsored by St. Louis University, Southern Illinois University and Washington University. A planning grant from the United States Public Health Service for the Bi-State Region was approved in 1967.

Bi-state is one of 54 regions in the country being organized to develop health programs in the fields of heart disease, cancer, stroke and related diseases.

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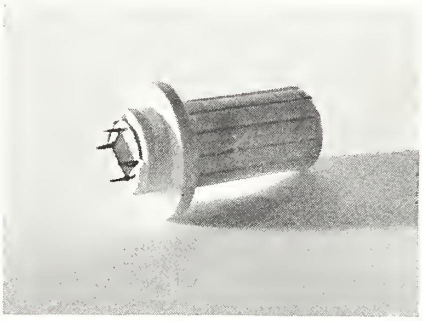

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Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with immediate gastric lavage and appropriate supportive therapy (CNS stimulants and pressor amines as indicated).

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Docs Invited to MSMSAS Convention

"Past, Present and Future" will be the theme for the Annual Convention of the Missouri State Medical Secretaries and Assistants Society at Holiday Inn in Joplin on April 20-21.

The Convention will open with a Pre-Convention Board Meeting at 7:30 p.m. on April 19. Registration and a general business session with election of officers will be held on April 20.

At the Saturday luncheon, the certified medical assistants and presidents of component societies will be honored.

Dr. Carl D. Siegel, Regional Program Director of the Division Medical Care Administration in Kansas City and an advisor to MSMSAS, will address the assembly on 'The Functions of a Medical Secretary" on Saturday afternoon. A film, "LSD-25," will be shown by Everett Atkinson, Director of the Bureau of Drug Abuse Control in Kansas City. M. A. S. Hallaba, M.D., Joplin, will discuss "Surgical Experiences in Vietnam."

A social hour Saturday night, compliments of the Jasper County Medical Society, will precede the "Gay Nineties" banquet.

After a continental breakfast Sunday morning, Dr. C. B. Schoeberl, president of the Jasper County Medical Society, will welcome members and guests.

Giselle Miller, education program chairman, will present a symposium with Dr. Donald R. Patterson, Joplin; Dr. Herbert J. Schmidt, Joplin; Dr. Lewis H. Ferguson, Joplin, advisor to the MSMSAS; and Mr. Charles Cook, Carthage, an attorney.

The Sunday luncheon speaker will be Senator Richard Webster, Carthage, who will discuss legislation. Dr. Jordan Kelling, Waverly, will install the newly-elected officers following the luncheon. He also is an advisor to MSMSAS.

All MSMA doctors and their wives are invited to join the MSMSAS at the meeting. For additional information, write to Mrs. Helen Siler, c/o Lewis H. Ferguson, M.D., Medical Arts Bldg., Joplin, Mo. 64801.

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Special Feature—

There Is Still Time to Exert Citizen Responsibilities

MRS. RICHARD A. SUTTER, *St. Louis*

The following is a transcript of the speech delivered by Mrs. Sutter to the Woman's Auxiliary to the MSMA at its annual meeting which was held in conjunction with the MSMA 110th Annual Session in Kansas City. Mrs. Sutter is Past-President of the Woman's Auxiliary to the Missouri State Medical Association and of the Woman's Auxiliary to the American Medical Association. The Editors believe that her remarks regarding public and rural health are particularly timely.

Do any of you remember the button, considered to be hilariously funny by the wags who wore it in the 20's, inscribed "Chicken Inspector"? Well, that is my topic for today. You will remember that a few months ago Betty Furness opened the refrigerator door and to her horror and amazement found a too-dead chicken and uninspected meat. After a great deal of hoopla and fanfare and promises to protect the kiddies, on last December 15 President Johnson signed the Federal Wholesale Meat Act, which goes into effect July 1, 1968.

For 60 years, the federal government has been responsible for inter*state* meat and poultry inspection for those plants which ship outside a state; but for intr*a*state inspection within each state, each state has carried its own responsibility. The original federal law covering interstate and foreign shipments was passed in 1907, largely as the result of the book, *The Jungle*, which was written by Upton Sinclair a year earlier. He described the conditions of filth in many slaughtering plants in Chicago and certain practices of selling diseased poultry and meat to an unsuspecting public.

Missouri has had inspection laws on its books for many years, thanks in large measure to the medical profession. **Why should there be need for a new federal law to cover intr*a*state operations? Why should we have reason to doubt today whether the pig or cow or chicken was diseased or dead before it reached the slaughter house or poultry plant?** The answer is that for many years the State Legislature of Missouri has failed to appropriate adequate funds to allow the State Health Department to carry out their duties as prescribed by law. The major cities of Missouri and a few counties maintain their own health departments and inspection systems. The state is responsible for inspections in rural areas. You know that today, unlike 60 years ago, such large packing centers as Chicago are almost out of business, since the slaughter houses and poultry processing plants are now located in rural areas close to the source of supply.

Digging into my old files, I found that it was in 1960 that I served on a steering committee set up by the Missouri Public Health Association. We worked hard, but without much effect, to arouse public indignation and subsequent legislative action to increase the budget of the State Health Department. Other members included the executive director of the Missouri Division of the American Cancer Society, the director of the Missouri Tuberculosis Association, the director of the State Farm Bureau, the secretary of the Missouri Public Health Association and the secretary of the Health and Hospital Division of the Health and Welfare Council of St. Louis. The Missouri State Medical Association and the Auxiliary became involved; I reminded Ray McIntyre the other day of a day's trip we took by train to Jefferson City for this cause. Among other groups which distributed leaflets citing Public Health deficiences and circulated petitions and resolutions were the State Hospital Council, State PTA and the Federated Women's Clubs.

In 1960, Missouri ranked 49th among the 50 states in monies budgeted by the state legislature for Public Health. Judging from figures I can put together, our position today is not much improved, although the State Health Department tells me that they have had a 25% increase in budget for the coming year.

Two years ago, on March 11, 1966, I was afforded the opportunity "to bring greetings" as president of the AMA Auxiliary to the National Rural Health Conference held that year in Colorado Springs, Colorado. I used my ten minutes to point up inadequacies of int*ra*state Public Health, also entitling my talk "There Is Still Time to Exert Citizen Responsibilities." Surprisingly, many people complimented me later on my "courage." You will recall that Medicare had been passed by Congress the previous summer; the medical profession was divided as to whether or not it should or would cooperate with this new law; and many other groups had thrown up their hands and lost interest in trying to move forward on a local or state basis, mainly because of inadequate financing. As you know, ever increasing federal taxation has preempted the ability of cities, towns, counties and states to increase their tax load.

Let me quote a few excerpts from those remarks made two years ago. "I believe that Abraham Lincoln's expressed philosophy of the role of government can be said to parallel the AMA's philosophy: **'The legitimate object of government is to do for a community of people whatever they need to have done, but cannot do at all, or cannot so well do for themselves, in their separate and individual capacities.'** In line with this concept, the AMA was instrumental in the establishment of Departments of Public Health, the United States Public Health Service, the Food and Drug Administration, the Department of Health, Education and Welfare and many laws relating to the betterment of the public health.

"You know that those who put the laws on the statute books are not the ones who are charged with administering them. Yet, when legislatures fail to provide the official agencies with an adequate budget to carry out their prescribed duties, they make a mockery of the law. **The professionals in our health departments must have the ever-vigilant support of community leaders and organizations at city, county and state levels, if they are to carry out the responsibilities with which they are entrusted."**

Mrs. Sutter

You know that public health statistics always lag, usually from one to two years. In March, 1966, the best available figures were for the year 1964. These showed that among the 264 slaughter houses and poultry processing plants listed on Division of Health records, those which *did* receive inspection *did not* in general comply with regulations. An earlier statistic quoted 29% as the number of such plants actually inspected. According to the latest figures supplied to me by the State Health Department, there were *more* inspections in 1964 in most of the various categories, including meat and poultry, than in any year since. Meat and poultry inspections dropped off almost one-third for each of the years 1965, 1966 and 1967.

You may remember that at the Missouri State Medical Association banquet held right here two years ago, which was a few weeks after I had spoken in Colorado Springs (and I do not pretend to claim cause and effect), Governor Hearnes announced that he had appointed a Commission to study public health problems in Missouri. This group arrived at two major requests: The first, the creation of a state level Health Council, was accepted; the second, raising of salary levels, was rejected, leaving the State Health Department back on center. Generally speaking, health department jobs are not sought because of their fixed and notoriously low pay scale. This is not a patronage area, such as road building.

A year ago, under threat of proposed federal legislation, the Missouri legislature established a meat inspection section under the Missouri Department of Agriculture, which became effective last October 13. The State Health Department had no objection to this since it relieved them of this chore and could, perhaps, enable them to spread their limited budget to other inspection and licensing areas.

According to a *St. Louis Post-Dispatch* article of March 3, 1968, it is estimated by the Department of Agriculture that there are now 500 meat slaughtering and processing plants subject to the state program. These do business only *within* the state of Missouri. This is almost double the number listed in 1964. Early inspections by the State Department of Agriculture have been to outstate areas where the state had been able to inspect only about 50 of the largest plants or one in ten. Quoting the *Post-Dispatch:* "Many of these outstate plants ship large quantities of meat products to supermarkets, small restaurants and other outlets in the two major cities, St. Louis and Kansas City. The Agriculture Department reports that in a number of instances they had to crack down hard on operators. In one case, a plant was ordered closed for a week until equipment and handling practices were improved to *state* standards. The one-week shutdown was ordered after an inspection showed that eight out of 19 animals slaughtered at the plant that day had to be condemned. The plant had been shipping much of its meat to outlets in the Kansas City area."

The February, 1968 issue of the *American Public Health Association Journal,* in an editorial relative to meat inspection, cited the following as major reasons for rejection of animals: tuberculosis, anthrax, hog cholera, tapeworm, pneumonia and trauma, such as bruises.

Representatives in the recent special session of the Missouri legislature in its final fund-slashing, which included residential facilities for emotionally disturbed children under the Mental Health program, reduced the number of inspectors in the Agriculture Department for the meat inspection program from their current 30 down to 25, although they had been asked for 110. Top salary ceiling of $350.00 per month has been imposed, although minimum salaries of $500.00 had been requested for this highly skilled personnel, with the federal government paying one-half the estimated $1.2 million cost. **Mr. Dexter R. Davis, state commissioner of Agriculture, has threatened elimination of the entire program, saying that if the state did not provide meat inspection for the many small slaughtering plants, the U. S. Department of Agriculture would "move in."**

Tom Fox of the Missouri State Medical Association staff in Jefferson City checked with the Department of Agriculture in regard to just what Mr. Davis meant by this statement. It is felt that with an on-going, although inadequate, program in Missouri, federal funds would not be withheld at the outset. **However, the state legislature would have to provide adequate funds at its next regular session or retribution would take place by withholding of federal monies, either in connection with this program or some other related area—the usual administration arm-twisting.**

Now to go back to remarks I made before the National Rural Health Conference two years ago. I said, "The public health and safety of rural areas affects all citizens of a state. The people of the entire state pay through higher costs of illness, loss of tourism and loss of industrial development. Can we learn to work together on a positive basis and fill unmet needs? Or, as many are claiming today, can only the federal government do the job? States' rights mean states' responsibilities. We know that if voids are not filled at state and local levels, the federal government will not only move in, but the public will invite it in." Enter Betty Furness.

If this has not disturbed your lunch adequately, let me provide you with further cause for concern. The federal government is already talking about inspection of public water supplies, your tap water. Again quoting from March, 1966: "Half of the towns in Missouri with signs posted outside their city limits saying 'Public Water Supply Approved, Missouri Division of

Mrs. Richard A. (Betty) Sutter, the author of the accompanying article, has been honored repeatedly for her leadership in voluntary health organization work, public health and education programs and numerous civic affairs. Her accomplishments were recognized again on March 1 when she was one of 11 persons to receive an Alumni Citation at the Founders' Day ceremonies at Washington University. The citation read: "For Betty Henby Sutter, for her tireless dedication to the improvement of health and education in her community and in the nation."

Health' are not inspected yearly. Some 5,000 restaurants in Missouri have never been inspected. Most of them are along highways or in resort areas where they are not subject to city health inspections. In 1959, 17 cases of typhoid were traced to a single, well-patronized eating place." I might add that two cases of typhoid were traced to the Trail of Tears State Park near Cape Girardeau this past summer. The State Health Department has advised me that this situation has been corrected.

Again quoting from the same speech, "Annual surveys of source of milk for the 55 cities which have Grade A milk ordinances are required by law; inspection is possible *only every third year!*" Some of you remember that in the 1920's Medical Auxiliaries in Missouri, and all over the country, were helping put these laws on the statute books.

Other inadequacies include inspection of grocery stores and inspection of public swimming pools. Only those located in the major metropolitan areas and one other county have ever been inspected. The State Health Department tells me that new legislation is needed to put teeth into the laws relating to public accommodations, hotels and motels, many of which do not meet requirements for licensing due to defects in water supply, sewage disposal and venting of appliances.

DOCTOR
Doctor
Bill O'Malley

"It's the hospital, Doctor!"

How do we obtain adequate budget increase to raise the standards of public health in our cities, as well as in rural areas? The answer is—through the same type of hard-sell educational campaign which has pulled Missouri out of the snake-pit level in mental health. We start in our own county medical auxiliaries by creating awareness of problems within our own membership. We need to concentrate on more solid health-related meeting programs and to cease trying to be a junior grade United Fund, raising a hodge-podge of money for other agencies. AMA-ERF, the only national level philanthropy in which the Auxiliary obtains identity, last year raised approximately $384,000; yet auxiliaries throughout the country raised over $600,000 for assorted loans, scholarships, libraries, laboratories, furnishings for various institutions and so forth.

We educate ourselves through good speakers and films at meetings so that our members can extend themselves through boards and committees into the community and the state, representing medicine's point of view where busy doctors cannot afford the time from their patients. And through the Auxiliary, we educate the public through our Public Relations Days (also called Guest Days), Reciprocity Days or, in Hawaii, *Lei* Days. We cannot expect to solve all our community problems singlehandedly, but we can act as a catalyst, helping to create public awareness and coordination of interested agencies and organizations.

We also have to educate our state legislators through personal contact and through appearances at hearings. Imagine trying to hire a veterinarian inspector at $350 per month! I see many of you who rallied to appear in Jefferson City several years ago at a hearing on increasing the state sales tax from 2- to 3-cents to allow the Mental Health Program to get off the ground. All such programs take time and patience, and they take money. But it is far cheaper to *prevent* diseases than it is to pay for their neglect.

Twenty years ago when I was president of the St. Louis County Medical Auxiliary, our Public Relations Day meeting was on the subject known then as "Compulsory Health Insurance." One of its greatest proponents, whom I have frequently quoted, was Wilbur Cohen, who has been advocating a complete system of socialized medicine as it is known in Europe since as far back as the

1930's. Today, he is the secretary of the United States Department of Health, Education and Welfare and is controlling a budget second only to the Department of Defense. *He* never gave up, and he continues to pursue the Fabian Socialist philosophy of accomplishing one bite at a time, through the tremendous bureaucracy he now officially heads.

Wilbur Cohen and his social planners remind me of the story of the three Boy Scouts whom Senator Fulbright tells about in his book *The Arrogance of Power.* Senator Fulbright likens this story to American foreign policy, but I think it could be applied to some of our domestic policies as well. Three Boy Scouts reported their good deeds for the day to their Scoutmaster. The first said that he had helped an old lady cross the street. The second said that he, too, had helped this little old lady cross the street. The third had the same good deed. So the puzzled Scoutmaster asked, "Why did it take all three of you to help one little old lady get across the street?" The boys replied, "Because she didn't want to go."

With more and more areas subject to government regulation, we must remember that the American form of democratic government was designed to make government the servant of the people, not the other way around. But we as citizens must act like masters of government at all levels, demanding from government what needs to be accomplished.

In this regard, I would like to share with you two observations my husband and I made in September, 1966, when in Germany and Austria. This was the first return visit my husband had made since leaving Vienna in September, 1945 (he was president of his medical society in 1947, not 1945 as reported in that extravagant article about me in *RX Auxiliary News*), and I had last seen Europe in 1934. We attended two International Congresses; one in Wiesbaden, Germany, on Rehabilitation and the other in Vienna, Austria, on Occupational Medicine, each with registration of over 3,000 participants.

In Wiesbaden, in five languages with individual battery-operated headsets, we heard the recurring theme that *all* disabled were entitled to complete rehabilitation services as a *right.* Our first reaction was that speakers were proselytizing complete government health services for the United States. But then we came to realize that these speeches were being directed toward the governments of the countries of the speakers, countries which have systems of state medicine. The speakers were using this meeting as a forum to demand adequate expansion of budget and funding. This is the never-ending problem under government financing of health services.

At the Vienna Congress, this came through clearly in the audience reaction to an American, Dr. Robert Kehoe of Cincinnati, who spoke on the toxic hazards to which lead workers are subjected if certain safeguards are not taken and which lead to physical collapse and even mental derangement. Dr. Kehoe stressed that in the United States it was accepted by everyone that the physician has a moral as well as professional responsibility to see that workers are not subjected to such predictable end results. The reaction was explosive. Doctors, not alone from the Communist bloc countries, but also from Germany, Austria and other European countries in which the physician is an employee of the state, vehemently objected to the acceptance of this philosophy of the physician's responsibility. They said that this was very well for the United States which could afford the "luxury" of strict preventive medicine, but they insisted that in their countries the physician could only offer limited preventive measures. They could only do what was "practical" and treat the man if and when the disability arose or send in another man. Complete preventive measures were not in the realm of possibility. They could only do what their employers told them to do.

Our impression of Communist Bloc physicians, and certainly many of the European physicians, was that they were technicians, excellent technicians, but not the independent professionals we have in this country.

I will close by saying again that we must keep ourselves informed about the problems in our communities and about what is or is not being done about them. It is through organizations, such as our auxiliaries, that we can make our voice heard. With the federal government assuming ever-greater responsibilities, the individual citizen must be ever-vigilant, ever the watch dog.

medical melange

Notes of interest from Here .... and There

Friends of the late **Dr. John J. Modlin,** noted cancer specialist, are planning to honor his memory by placing a bas relief carving entitled, "St. Luke, Beloved Physician," in the Ellis Fischel Cancer Hospital. The work of Sculptor William C. Severson, the carving speaks of both the spiritual and medical aspects of healing. Contributions should be made to the John J. Modlin Memorial, Cancer Research Center, Business Loop 70 and Garth Ave., Columbia, Mo. 65201. If the funds raised exceed the cost of the sculpture, the balance will go to the Modlin Memorial Fund at the Cancer Research Center.

Dr. George L. Watkins, Farmington, has received a certificate of appreciation from the Department of Defense through the St. Francois County Selective Service Board. Doctor Watkins had served as medical advisor to the service board for more than 25 years.

A Poison Control Center has been opened at the Lucy Lee Hospital in Poplar Bluff. The center is one of a network of 15 centers in Missouri designed to receive the latest information regarding household and commercial poisons from the National Clearing House for Poison Control Centers, an agency of the United States Public Health Service. The centers offer 24-hour service to physicians to make available all known information to assist the doctor in the diagnosis and treatment of a case of poisoning.

Dr. Milford T. Kubin, retiring medical superintendent of Ellis Fischel State Cancer Hospital, received a plaque of appreciation on behalf of Ellis Fischel employes at a reception in the hospital clinic. The plaque was presented by **Dr. J. P. Russell,** director of state hospital and technical services, Jefferson City.

Dr. Jack Mullen, Bonne Terre, was elected staff president and head of the department of internal medicine at the Bonne Terre Hospital. He succeeds **Dr. Van W. Taylor,** Bonne Terre, who has held the post of staff president for many years. Other officers elected are **Drs. J. L. Foster,** Desloge, staff vice-president; **Paul Dennis,** Flat River, staff secretary-treasurer; and **C. H. Appleberry,** Flat River, chairman of the Executive Committee and Credentials Committee.

Dr. Leo H. Pollock, Kansas City, attended the meeting of the Puerto Rican Chapter of the American College of Surgeons in San Juan recently. Doctor Pollock is the author of *Missouri Medicine in Review,* a regular feature in Missouri Medicine.

Dr. R. Jerome Williams, former director of the out-patient department of Homer G. Phillips Hospital in St. Louis, has been named to the State Board of Registration for the Health Arts by Gov. Warren E. Hearnes. His appointment is for a term ending Sept. 3, 1971. Doctor Williams has been in private practice in St. Louis since 1965.

Dr. William W. Woodward, Independence, has received the American Medical Association's certificate of humanitarian service in recognition of his work last May and June in the 300-bed hospital in Nha Trang, a coastal city between Saigon and Da Nang. Doctor Woodward, who went to Vietnam as part of the AMA voluntary physician program, was honored at a dinner meeting recently by the Jackson County Medical Society.

Dr. Gilberto V. Carmona, who has opened an office in Arnold, will be the only pediatrician in that area. He has been associated with the St. Louis Health Department since 1959 and the Pediatric Clinic at St. Louis Hospital.—**Dr. Elliott M. Braverman** has moved into his new office in Sedalia.

Dr. Thomas H. Hendren of Liberty, Chief of General Surgery at the United States Army Hospital at Fort Leavenworth, was guest speaker at a recent meeting of the Excelsior Springs Rotary Club. Doctor Hendren plans to return to private practice in Liberty when he leaves the service in May.

Dr. Douglas Kelling has resigned from the Kelling Clinic and Hospital in Waverly to accept a position as medical director of General Motors, Fisher Body, Chevrolet Division in Kansas City.—**Dr. Daniel J. Cutliff** has been elected president of the staff at St. Joseph Hospital in Kansas City.

Dr. Arthur E. Rikli has joined the Missouri Regional Medical Program as director of operations and the University of Missouri School of Medicine as professor in community health and medical practice. He formerly was assistant director for programs in the hospital and medical facilities division for the U. S. Public Health Service in Silver Spring, Md.

Dr. Cyril A. Post, Poplar Bluff, has been elected president and Mrs. Post has been appointed secretary of the People's Printing Co. in Three Rivers. Doctor Post, well-known in the Three Rivers area, founded the Poplar Bluff Interact Club, an international Rotary organization that promotes exchange of students between foreign countries.

Weariness "without cause"

Psychic tension with depressive symptomatology?

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindications: Known hypersensitivity to drug; children under 6 months of age; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in treatment of psychotic patients, and should not be employed in lieu of appropriate treatment. As with most CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving). When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may also be associated with temporary increase in frequency and/or severity of seizures. Advise patients against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance. Keep addiction-prone individuals (such as drug addicts or alcoholics) under careful surveillance because of their predisposition to habituation and dependence. Use of any drug in pregnancy, lactation or in women of childbearing age requires that potential benefit be weighed against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects —particularly with known compounds which may potentiate action of Valium, such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants. Employ usual precautions in the severely depressed or in those with latent depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal c hepatic function. Limit dosage to smallest effective amount i elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually a needed or tolerated).

Adverse Reactions: Side effects most commonly reportec drowsiness, fatigue and ataxia. Infrequently encountered: cor fusion, constipation, depression, diplopia, dysarthria, headach hypotension, incontinence, jaundice, changes in libido, nause changes in salivation, skin rash, slurred speech, tremor, urinar retention, vertigo and blurred vision. Paradoxical reactions suc as acute hyperexcited states, anxiety, hallucinations, increase muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, use of the dru should be discontinued. Because of isolated reports of neutropenia and jaundice, periodic blood counts and liver functio tests are advisable during long-term therapy. Minor changes i EEG patterns (low-voltage fast activity) observed during an after therapy and are of no known significance.

Dosage: Individualize for maximum beneficial effect. *Adults* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. t q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 m t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 t 2½ mg, 1 or 2 times daily initially, increasing as needed an tolerated. (See **Precautions.**) *Children:* 1 to 2½ mg t.i.d. o q.i.d. initially, increasing as neede and tolerated (not for use unde 6 months).

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Medical Center Researchers Strive to Control Diabetes in Children

Doctors in the Medical Center at the University of Missouri are carrying on research with the aim of ultimately controlling diabetes in children.

Research is progressing to identify children who are pre-diabetic or carriers in order to interrupt the evolution of the disease and prevent its development.

The evolutionary process of the disease has been observed in ten children from diabetic families since 1955. Five of the children have developed the disease so far. It progresses from a stage in which a genetic predisposition to become a diabetic is present—to a stage of chemical diabetes in which no overt symptoms are present but in which there are abnormalities in tests—to a later stage of overt symptoms. In only two cases of genetic predisposition can it be confirmed at the time that the disease will appear: one is in the children of parents who are both diabetic and the other is in an identical twin when the other twin is diabetic, since both have the same genes.

Statistically and theoretically, it is calculated that if one child is diabetic either or both of his parents are diabetic or are carriers, *i.e.*, are carrying the gene and passing it on to their children. If both parents are diabetic, all their children theoretically should become diabetic at some time. If both parents are carriers, then one out of four of their children should have diabetes, one out of four should be normal and two out of four should be carriers.

A booklet designed by Dr. Robert L. Jackson, professor and chairman in the pediatrics department, tells parents of diabetic children important facts about the disease called *diabetes mellitus.*

The disease can be fatal and is especially severe in children. One child in 2,500 develops diabetes before the age of 16. It is estimated that more than 100,000 adult diabetics had the onset of the disease during their growth period.

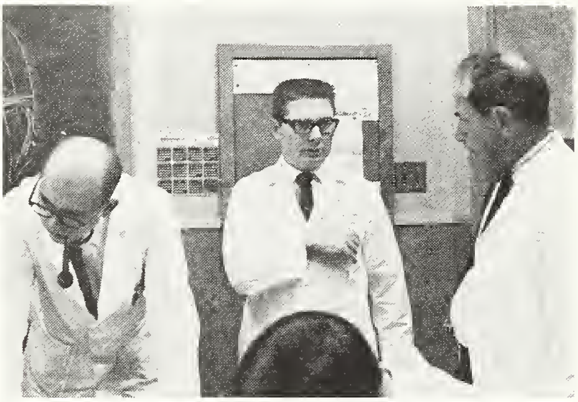
The University has established one of the largest centers in the Midwest for treatment of diabetic children. It is under the direction of Doctor Jackson, who came to the University in 1954. In the past year-and-one-half, the program has been expanded due to the opening of the Clinical Research Center.

Under Doctor Jackson's direction, research is being conducted by Dr. D. Y. N. Murthy and Dr. Richard A. Guthrie, both instructors and research fellows in pediatrics; Dr. James Burkeholder, assistant professor in pediatrics, who has rejoined the staff after military service; and laboratory technicians under the supervision of William Womack, research assistant, who has a Master of Science degree in Biochemistry.

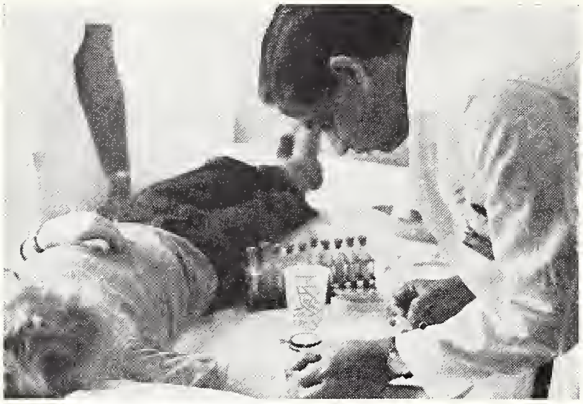
The usual method used to detect diabetes is the oral glucose tolerance test. More refined techniques are being perfected to detect pre-diabetic and chemically-diabetic children who will become diabetic. Most of these children are from families in which there are diabetics. The glucose tolerance test may not show any abnormality in the pre-diabetic child. The newer techniques use the drugs cortisone, tolbutamide and glucagon to stress the pancreas or to stimulate it to secrete insulin. This measures the reserve capacity of the pancreas to produce insulin. The reserve ability to produce more insulin in the face of stress will be found in the normal individual, but it becomes progressively lost as diabetes develops.

At this point in the research, 250 to 300 children of diabetic families have been tested, 30 of whom probably will become diabetic.

These 30 children, who are chemical diabetics,



***(Left to right)* Dr. James Burkeholder, assistant professor in pediatrics; Dr. Richard Guthrie, instructor and research fellow in pediatrics; and Dr. Robert Jackson, professor and chairman in the pediatrics department, discuss the patients who have been seen in the Outpatient Clinic at the University of Missouri Medical Center.**



Dr. D. Y. N. Murthy, instructor and research fellow in pediatrics, performs an intravenous glucose test on a diabetic in the Clinical Research Center at the University of Missouri. During a child's stay at the Center, he undergoes a series of tests in order to determine correct treatment for his individual needs.

are being treated by different methods to determine which treatment elicits the best response. Also being observed is the length of time it will take a treated child to become diabetic as opposed to the child who has received no treatment.

Some of the children receive treatment by a special diet low in sugars and starches. Another method is to give a small amount of insulin to put the pancreas at rest and, at the same time, preserve its function. Other children may be given tolbutamide by mouth instead of the injection, as is necessary with insulin. The aim here is to do away with injections and to use the more convenient, non-painful pill. The last treatment which may be tried in the future is with the drug phenformin, which is used in treating adults and, also is given orally.

To date, the insulin treatment has been more effective than the other treatments in delaying the onset of the disease.

In another phase of the research, determinations are being made of the amounts of sugar, insulin and growth hormone found in normal children during the various types of glucose tolerance tests. This is done to establish a base line for comparison with children who are prediabetic. Approximately 100 normal children must be used for each test, and the average values with two standard deviations are calculated. These tests have been facilitated by an automatic scintillation counter which counts 100 blood samples at a time and a total of 400 in one day. The testing requires five samples of blood from each child upon which three or more determinations are made. Before the counter was acquired, each sample was counted individually. The $12,000 device was provided by a grant from the National Institutes of Health.

Some years ago, Doctor Burkeholder and Dr. James M. Pickens, assistant professor in pediatrics, established normals for the glucose tolerance test in children. Doctor Guthrie is almost ready to publish normals for the cortisone glucose tolerance test and, also, normals of insulin levels.

In the coming year, Doctor Guthrie and Doctor Murthy plan to establish normals for intravenous tests of glucose tolerance, glucagon and tolbutamide. These normals have been established already for adults but not for children.

Children who have been tested for the normal base lines came from the University Laboratory School and orphanages in the state.

Recently, Doctors Jackson, Guthrie and Murthy presented a paper on results of their research in Stockholm, Sweden, at the Sixth International Diabetes Federation Congress. The paper discussed their method of management of the diabetic child, the normal base lines recently established and data on results of the treatments on some of the 30 chemically-diabetic children.

One-hundred-fifty to 200 children, who are referred by their doctors from all over the state, are being treated at the University's Medical Center. The patients usually are referred because treatment of the disease is time consuming and requires specialized care. Results of poor treatment may mean that the diabetic child will develop poor vision and kidney trouble that result from changes in the blood vessels. Although diabetes is a chronic disease with no known cure, normal growth, exercise, diet and intellectual development are possible if the disease is properly cared for by the parents and the doctor.

Other studies are being made by the doctors in connection with diabetes.

Doctor Murthy is studying insulin binding. This is a condition in which some children become allergic to insulin and produce antibodies which make the insulin inactive. Insulin used in treatment of diabetes is extracted from the pancreas of hogs and cattle and differs slightly from human insulin. Insulin binding is present in all child diabetics after three to six months of therapy, but it is not enough to be significant except in 15% to 20% of the children. More insulin will have to be given to the child who binds large amounts.

Doctor Murthy also is studying fats in the blood related to diabetes. Doctor Burkeholder is attempting to determine if the diabetic is deficient in the metal chromium.

Dr. Gerald J. Van Leeuwen, assistant professor of pediatrics; Dr. Michael L. McCann, recently appointed from Western Reserve University in Ohio; and Doctor Guthrie are engaged in a study of sugar metabolism in the newborn infant. They particularly are concerned with the diabetic mother's infant who has multiple problems at birth. A study now is being undertaken to find better methods for treating these infants in order to lower the mortality rate and prevent brain damage which occurs frequently.

Other areas of study are: (1) more sensitive techniques to measure blood insulin, (2) techniques to measure other blood sugars in relation to glucose, (3) experiments to determine if caffeine stimulates production of insulin and (4) in obese diabetic children, to find a relation between obesity and blood insulin level.

Financing of the research comes mainly from the National Institutes of Health which is a part of the Department of Health, Education and Welfare. Grants are received each year for training researchers and paying for the research in diabetes.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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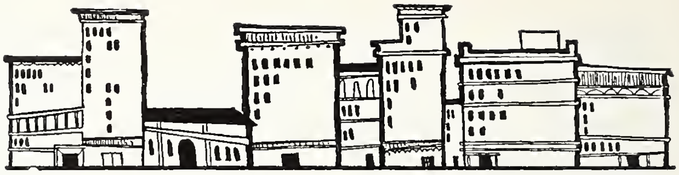


WASHINGTON UNIVERSITY

A "graduate" of the Irene Walter Johnson Institute of Rehabilitation of the School of Medicine was featured in a recent issue of *Time Magazine*. He is Robert Martin Arhelger who has cerebral palsy, but is now one of the top third-year students at Stanford University School of Law.

When Mr. Arhelger first came to the Institute in 1957, he was taught to dress himself, to use a wheelchair properly and to perform other simple coordination activities. He also was given encouragement to attend college.

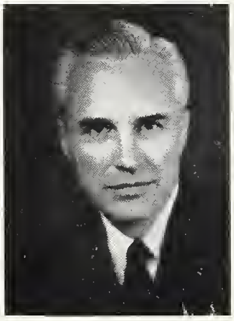
He was graduated from the University of Illinois where he was an honors history major and consistently made the dean's list. Although almost completely crippled and unable to feed himself, he has maintained a grade average of 3.57 (on a scale of 4) during his law school courses.

MISSOURI UNIVERSITY

Dr. E. Grey Dimond has been appointed the first University of Missouri Distinguished Professor of Medicine at the School of Medicine in Columbia. The appointment is effective September 1, 1968.

Bill O'Malley

"Send in the nurse who put Mr. Sassoon in traction!"



Dr. Dimond

Dr. Dimond is presently professor of medicine-in-residence at the University of California at San Diego and a member of the Scripps Clinic and Research Foundation at La Jolla, Calif. He previously was professor and chairman of the department of medicine at the University of Kansas Medical Center.

The University Professorship in the Missouri School of Medicine is being supported in part by a gift to the University by Frederick A. and Catherine Middlebush. Dr. Middlebush was president of the University from 1935 to 1954.

Dr. Dimond is a native of Missouri and a graduate of Indiana University. A recognized authority on heart disease, he is the author of nine medical books, including *Electrocardiography* (fourth edition now at press), 136 scientific articles and a number of articles on medical education.

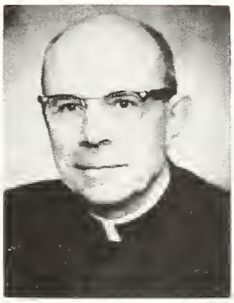
Dr. Owen J. Koeppe will become chairman of the Department of Biochemistry at the School of Medicine on September 1. Dr. Koeppe's assumption of the administrative duties in the department will permit Dr. Thomas D. Luckey, chairman since 1954, to devote his full time to teaching and research. He is an international authority on gnotobiology.

Dr. Koeppe joined the faculty at Missouri in 1955. His primary research interest is in the biosynthesis of proteins and peptides. Currently, he is studying the properties of the enzymes of the body which are involved in the change of certain toxic acids to forms which can more readily be excreted.

Dr. Luckey's current research interests are concerned with three major problems: the role of the intestinal microflora in the nutrition of the host, the origin of life and hormology. He is the author of numerous articles on germfree research, nutrition, vitamins, and antibiotics. He plans to take a sabbatical leave beginning in September to pursue his studies in these fields.

ST. LOUIS UNIVERSITY

Rev. Edward J. Drummond, S.J., vice president, Medical Center, was elected president of the North Central Association, America's largest regional educational accrediting agency during the 73rd annual meeting of the Association in Chicago. Father Drummond has broad experience in a variety of education and professional associations. He is chairman of the Council of the Federation of Regional Accrediting Commissions of Higher Education, is a member of the Board of Commissioners of the National Commission on Accrediting and has served as a member of the National Education Association's planning committee. He also served as a chairman of the Jesuit Educational Association and as a member of the National Catholic Educational Association's Commission on Graduate Studies. Active in the National League for Nursing, he is a member of the Board of Directors and has served on various committees of the organization.



Rev. Drummond

A gift of $100,000 has been received by the School of Medicine for the establishment of the Gordon R. and Thelma B. Coates Medical Research fund which will support multiple sclerosis studies.

The section of neurology headed by Dr. Louis Tureen, professor of neurology and anatomy, has received an initial gift of $50,000 for the purchase of an electronmicroscope and a microtome to be used in the multiple sclerosis investigations.

An additional sum of $10,000 to be given annually for a five-year period for continuing research has been pledged by Mr. and Mrs. Coates. A dark room and laboratory facility for the electron-microscope to be used in the multiple sclerosis studies will be quartered in the new research wing now being completed at the School of Medicine, 1402 South Grand Blvd.

Tuition for the School of Medicine will be increased from $900 to $1,050 per semester beginning September 1. Other Schools in the Medical Center to be effected by the increase announced by Rev. Paul C. Reinert, S.J., University president, will be the School of Nursing and Health Services from $700 to $800 per semester and the Graduate School from $47 to $53 per semester hour.

Dr. Ronan O'Rahilly, profesor of anatomy and chairman of the department of anatomy, has edited and translated the second French edition of Normal Radiological Anatomy, a 400 page volume on Radiological Optics and Film Interpretation. The book was written by Dr. Henry Tillier, late professor of radiology in the Hospitals of Algiers, Algeria.

"A Day of Cardiology" sponsored by the St. Louis and Missouri Heart Association and the St. Louis Society for Medical and Scientific Education recently included the following speakers: Drs. J. Gerard Mudd, associate professor of medicine and director of the cardiac catheterization laboratory; Leonard Fagan, assistant professor of pediatrics and director, department of pediatric cardiology; Rene Wegria, professor of pharmacology; and Richard Entrup, senior instructor, internal medicine.

Dr. Edward T. Auer, professor and chairman, department of neurology and psychiatry, was chairman of the session on "Therapeutic Abortion and Mental Illness" at the meeting of the American Orthopsychiatric Association in Chicago. He also attended the meeting of the board of directors at the Group for the Advancement of Psychiatry in Philadelphia.

Dr. John W. Fries, assistant clinical professor of radiology, was elected president of the Greater St. Louis Society of Radiologists for 1968 to 1969. His new office became effective March 4.

Dr. K. G. Wakim, professor of physiology at the Mayo Foundation and consultant at Mayo Clinic in Rochester, Minn., delivered the annual William H. Vogt Lecture sponsored by the Alpha Kappa Kappa medical fraternity of the School of Medicine.

The American Cancer Society has launched a new series of films as part of its expanding program of professional education. Oral cancer, nursing cancer patients, diagnosing and managing colon-rectum cancer are a few of the subjects presented in these new color films. For more information and arrangements for showing, call your local ACS office.

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Volume 65, Number 5—May, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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IVAN W. SLETTEN, M.D., *St. Louis and*
GEORGE A. ULETT, M.D., *St. Louis and Jefferson City*

Computer Processing of Clinical Psychiatric Information in the Missouri Division of Mental Diseases

The availability and demonstrated value of high-speed digital computers in all types of data processing invites exploration of their use in handling routine clinical record data. The potential contribution of computers has been described by Ulett.[1] The findings of Glueck,[2] Kline & Laska,[3] Rome[4] and others in clinical psychiatry have been encouraging, although questions remain to be answered. In the past year at the Missouri Institute of Psychiatry and in the Missouri Division of Mental Diseases, we have used the computer for routine, day-to-day processing of psychiatric information and we wish to report our findings.

It is possible to place clinical information into an electronic computer memory using several methods: (1) a conventionally dictated, narrative physician's report can be directly typed in, utilizing a special typewriter; (2) some use of formats and regimentation can be required in the report, for example, standard ordering and sequencing of sections of a report or use of certain terms may be required; (3) a rigid check list may require fixed responses to fixed questions; and (4) combinations of the above three methods may be used.

The disadvantage of the check list method is the regimentation and restriction to which it subjects the respondent. Despite this, it has some advantages and might improve psychiatric history-taking and medical records if these advantages are exploited. We have used this approach to a considerable extent for the following reasons:

(1) *Standardization of terms.* The check list method creates strong pressures on clinicians to agree on similar terms for similar find-

A report on the use of the high-speed electronic computer in processing routine clinical psychiatric data in the three acute treatment centers and five state mental hospitals of the Missouri Division of Mental Diseases. The authors discuss the problems experienced in the state program and possible solutions. It is their hope that the system will save valuable staff time that can be utilized in other types of meaningful interchange with patients. Doctor Sletten is Associate Professor in the Department of Psychiatry, Missouri Institute of Psychiatry, University of Missouri School of Medicine. Doctor Ulett is Professor and Chairman of the Institute and Director of the Missouri Division of Mental Diseases.

MENTAL STATUS EXAMINATION
(MISSOURI DIVISION OF MENTAL DISEASES)

Patient's Name: ____________________

Date of this Report ______ / ______ / ______ (Month / Day / Year)

Name of Hospital: ____________________

Sex (of Patient): ______ / ______ (Male / Female)

Date of Birth: ______ / ______ / ______ (Month / Day / Year)

Patient's Number: ____________________

GENERAL APPEARANCE

I *Natural and Unremarkable* True

A. Facial Expression:
- sad 1 2 3
- expressionless 1 2 3
- hostile and angry 1 2 3
- anxious, worried 1 2 3

Dress and Personal habits
- meticulous 1 2 3
- clothing, hygiene poor 1 2 3
- incontinence 1 2 3
- bizarre dress 1 2 3
- sideburns, odd hair styles, cowboy boots, etc. 1 2 3

MOTOR BEHAVIOR

II *Average Type and Quantity* True
- increased in amount 1 2 3
- decreased in amount 1 2 3
- pacing and hand-wringing 1 2 3
- mannerisms 1 2 3
- posturing 1 2 3
- repetitive acts 1 2 3
- angry outbursts 1 2 3
- compulsive acts 1 2 3
- ritualistic acts 1 2 3

SPEECH AND THOUGHT

III *No Abnormalities* True

A. Thought processes:
- blocking 1 2 3
- echolalia 1 2 3
- perseveration 1 2 3
- clang associations 1 2 3
- neologisms 1 2 3
- flight of ideas 1 2 3
- fragmentation 1 2 3
- tangential thinking 1 2 3
- circumstantiality 1 2 3
- inability to understand proverbs 1 2 3

(con't)

B. Speech:
- excessive amount 1 2 3
- amount reduced 1 2 3
- monosyllabic 1 2 3
- mute 1 2 3
- slow verbalization 1 2 3
- voice is soft 1 2 3
- voice is loud 1 2 3
- dysarthria 1 2 3
- aphasia 1 2 3

MOOD AND AFFECT

IV *Mood and Affect Normal* True
- elated about sad things 1 2 3
- sad about pleasant things 1 2 3
- shows silliness 1 2 3
- flat (no fluctuations) affect 1 2 3
- labile affect 1 2 3
- mood elevated 1 2 3
- mood depressed 1 2 3
- labile mood 1 2 3

OTHER EMOTIONAL REACTIONS

V *No Abnormalities* True
- anxiety 1 2 3
- unrealistic hostility 1 2 3
- impulsive acts 1 2 3
- evasiveness 1 2 3
- detached 1 2 3
- tends to blame 1 2 3
- sensitive to criticism 1 2 3
- apathetic 1 2 3
- lack of feelings 1 2 3
- tendency to withdraw 1 2 3

A. With Examiner:
- evasive 1 2 3
- ingratiating 1 2 3
- submissive 1 2 3
- hostile 1 2 3

THOUGHT CONTENT

VI *Normal Concerns* True
- phobias 1 2 3
- obsessional ideas 1 2 3
- depersonalization 1 2 3
- derealization 1 2 3
- homicidal ideas 1 2 3
- thoughts of assault 1 2 3
- thoughts of eloping 1 2 3
- other antisocial ideas 1 2 3
- guilt feelings 1 2 3
- suicidal thoughts 1 2 3
- hypochondriasis 1 2 3
- heterosexual concern 1 2 3
- homosexual concern 1 2 3

A. Delusions:
- of grandeur 1 2 3
- of reference 1 2 3
- of influence 1 2 3
- of persecution 1 2 3
- of worthlessness 1 2 3
- of passivity 1 2 3
- nihilistic ideas 1 2 3
- somatic delusions 1 2 3
- delusions have push and energy 1 2 3
- delusions encapsulated 1 2 3

B. Hallucinations:
- visual 1 2 3
- auditory 1 2 3
- tactile 1 2 3
- gustatory 1 2 3
- olfactory 1 2 3
- insight and doubt about hallucinations 1 2 3

C. Illusions 1 2 3

SENSORIUM

VII *No Impairment* True

A. Impaired orientation:
- time 1 2 3
- place 1 2 3
- person 1 2 3

(con't)

B. Manifests:
- clouding of consciousness 1 2 3
- short attention span 1 2 3
- inability to concentrate 1 2 3
- poor recent memory 1 2 3
- poor remote memory 1 2 3
- amnesia 1 2 3
- disassociation 1 2 3
- cause probably is organic 1 2 3

INTELLECT

VIII *Normal Ability* True
- I.Q. above normal 1 2 3
- I.Q. below normal 1 2 3
- paucity of general knowledge 1 2 3

INSIGHT AND JUDGEMENT

IX *No Abnormalities* True

A. Insight poor:
- unrealistic regarding degree of illness 1 2 3
- feels needs no help 1 2 3
- does not accept fact of hospitalization 1 2 3

B. Judgment impaired:
- doesn't know why hospitalized 1 2 3
- unrealistic regarding tomorrow's activity 1 2 3
- unrealistic regarding plans after release 1 2 3
- unrealistic regarding employment plans 1 2 3
- excessively willing to stay in hospital 1 2 3

Fig. 1 Front page of Mental Status Examination

ings. Such agreement facilitates communication at all levels and is desirable whether or not one is using a computer.

(2) *Comprehensiveness and uniformity of reports.* With check lists as guides, clinicians are more likely to submit well-rounded and complete reports.

(3) *Educational value.* With a constant influx of untrained physicians, social workers, nurses, aides and students in all categories, it is valuable to have a check list guide to insure adequate observations.

(4) Finally, the check list approach facilitates computer processing of data regardless of computer hardware used.

The following discussion of the Mental Status Examination will illustrate the approach we have utilized in constructing reporting instruments for computer use.

MENTAL STATUS EXAMINATION

The physicians who use this check list were regularly consulted during its development. They approved its format and agreed upon the information to be collected. The front page of the form has identifying data as well as the body of the report (Fig. 1). The latter consists of nine sections. We have employed a branching maneuver which permits one to skip a whole section of potential items if a lead question is answered "True." Thus, if a patient has no findings, the form can be fully completed by indicating "True" to the nine lead questions. As few or as many items as necessary can be checked in a section. If an item is not checked, it is assumed this finding is not present. A circle on "1," "2" or "3" indicates that finding is present to a mild, moderate or severe degree, respectively.

The computer memory holds a specific phrase or sentence for each possible indication that the physician can make and it is printed into the final report. This narrative report from the computer is returned to the physician for his signature and then is placed in the patient's record as an official and sufficient legal entry.

On the reverse side of the form, the official American Psychiatric Association standard disease classification is available and the desired disease state(s) may be checked. There also is space for written narrative comments.

Physicians report it is as easy or easier to complete the computer Mental Status Examination form than it is to dictate a conventional report. They find that the list of items is a useful memory aid which helps them to compose a complete report. The form is now used in the three acute treatment centers and five state mental hospitals in the Missouri Division of Mental Diseases.

Some concern has been expressed because the computer reports will not contain individualized statements related to mental content in general, delusional content in particular and unique statements from patients. We feel this objection is overcome by allowing a "narrative comments" section.

ADDITIONAL COMPUTERIZED REPORTING INSTRUMENTS

Nurses, aides and attendants have used the Routine Nursing Report form (Fig. 2) with a minimum of trouble. The form resembles the one developed at the Institute of Living, although it differs in that a graded response can be given to each item (0, 1, 2 and 3 corresponding to never, sometimes, usually and always, respectively), rather than a true or false statement. Also, the item content has been changed and expanded to better fit our type of mentally ill population. A few minutes are required for the staff to become familiar with this two-page form and only a few minutes are required to fill it out. A comprehensive report is generated by the computer for the physician's perusal.

Verbal

Talks excessively
0 1 2 3
Speaks when spoken to
0 1 2 3
Refuses to talk
0 1 2 3
Screams or yells for no reason
0 1 2 3
Curses at others
0 1 2 3
Speech is excessively slow
0 1 2 3
Speech is jumbled, hard to follow
0 1 2 3
Difficulty in expressing himself
0 1 2 3
Strange, bizarre ideas
0 1 2 3
Can carry on simple conversations
0 1 2 3

Fig. 2 Routine Nursing Report (Typical Section).

Work supervisors have extensively used the Industrial Therapy Patient Progress Report (Fig. 3). This form generates an account of work performance and behavior on the job. With a mini-

Performance on the Job

T	F	
		Patient is willing to work.
		Patient follows directions.
		Patient completes work assignments.
		Patient works well with personnel.
		Patient works well with other patients.
		Patient needs little supervision while working.
		Patient makes few mistakes.
		Patient is around when needed.

Fig. 3 Industrial Therapy Patient Progress Report (Typical Section).

mum of effort on the part of non-psychiatrically trained staff, a valuable, regular report is prepared for the staff's information.

A modified Minnesota-Briggs History form (Fig. 4) is mailed to the patient's relative for completion. When returned, the information is key-punched and a narrative report is produced for the physician. Relatives have demonstrated considerable willingness to fill out the form. Eighty percent of the relatives of 30 long-stay patients returned the form after the first mailing.

The Physical Examination form (Fig. 5) has been used primarily for the annual examination in long-stay patients. On the average, it takes four minutes for the physician to fill it in. This is about two minutes more than the time required to dictate a report. However, the computer method generates a comprehensive report—one that is quite acceptable to the Joint Commission on Hospital Accreditation.

During the past year, in collaboration with the University of Missouri School of Medicine Pathology Department, we have examined patients' blood chemistry using a battery of laboratory tests. By July, 1968, we will have stored in the computer memory basic data on mental status, physical examination and blood chemistry on the 9,000 long-stay patients in Missouri's five state hospitals.

8. (1) As a child, the patient *often* lived with strangers or relatives.
   (2) As a child, the patient spent most of her time at home but stayed away from home occasionally.
   (3) The patient lived with her parents almost all of her childhood.

Fig. 4 Minnesota-Briggs History Record (Typical Section).

In addition, our program for computer handling of all clinical record face sheet data will furnish a case registry yielding important demographic data. A standardized form being developed for use in all the clinics, schools and hospitals for the mentally retarded will prevent costly duplication in diagnostic procedures with this group of patients.

Thus, our findings suggest that psychiatric information lends itself to check list reporting and to computer handling. It appears that much of the day-to-day clinical record data can be obtained in machine-readable form and trapped in the computer using a check list system.

At the present time, we process all information using key-punch procedures. Every mark made on the reporting forms has a place in a column of an IBM card and the key-punch operator must make the correct punch. Two problems have arisen: (1) the process is rather slow and expensive, and (2) errors occur as incorrect punch-

SKIN

Good turgor	T	F	
Good texture	T	F	dry T scaly T delicate T thick T
No lesions	T	F	

Fig. 5 Physical Examination (Typical Section).

es are made. A five to ten percent error is perhaps an average rate.

PROBLEMS AND POSSIBLE SOLUTIONS

As it becomes clear that the check list system has value and merit in a routine day-to-day clinical setting such as ours, we are confident that engineers can obviate difficulties in data handling that occurs in the key-punch approach. The optical mark reader or, perhaps, the cathode ray tube may be of help. On the latter device, which looks like a television set, one can display typewritten material such as our check lists. One can "write" or mark on the screen by means of a special flashlight-like pencil. We are eager to explore its use since it may reduce errors and clerical needs and provide useful, immediate feedback to the persons caring for the patient.

For some types of information, such as physicians' orders which require immediate action, the cathode ray tube wired directly into the computer with immediate feedback may be necessary.

For some complex areas of reporting, such as the "history of the present illness," check lists may be so lengthy and complex that it will take increased effort on the part of physicians to use them. In such situations, one might be obliged to process narrative text. Through methods of key word identification and utilization of certain rules of syntax, one can process such narrative data for clinical, research or administrative purposes.

A major problem facing everyone working in this field is how to adequately utilize the information once it is electronically stored. At present, the computer functions primarily as a typewriter as it types up a report. In our experience, such reports (particularly from ancillary services) are unusually long. Consequently, the physician has as much to read in a chart as before. We urgently need methods to meaningfully summarize and reduce these data to succinct statements.

Related to this voluminous report problem is the problem of knowing what information to collect, i.e., of knowing what information has predictive value. We are really only interested in altering the course of disease, by predicting who will respond to a specific type treatment and by identifying and eliminating causative agents. At present, we are not sure that the information we are handling has such predictive or identifying value. Some or much of it might well be useless.

We believe that the solution to these two critical problems depends upon comprehensive patient follow-up. This follow-up must determine hard facts about patients, including admission and release data, suicide and elopement rates, antisocial acts and other observable happenings. These facts can then be related to the observations made of the patients in multiple areas, such as mental status as recorded by the physician, ward behavior as reflected in the nurse's notes, social history as reported by relatives, etc. With the information accumulated through normal day-to-day care of patients, we will have in computer storage a wealth of data. Through adequate statistical handling, we can identify relationships and correlations among the facts gathered. These factual relationships will help us to better understand mental disease processes and to be better able to predict and control patient behavior and, thus, to better treat our patients.

Also, as we statistically handle the stored data, we will be able to identify collected information that does not have predictive value and that does not help diagnose and treat. These old observational items can then be discarded and new ones can be substituted and tested. The number of items eventually can be highly selective, precise and few in number. This approach to reducing the volume of data handled in psychiatric reports has always been desirable but has not been possible for at least two reasons: (1) the data collected have been too fragmentary and incomplete, and (2) they are stored in disorganized medical records from which they are almost impossible to extract. With systematic collection of data, using our check list system, we hope to have adequate information available. With the computer's ability to store, compare and sort data and, thus, to identify significant relationships in the data gathered, we will be able to develop a more rational scientific approach to the care of patients.

With adequate follow-up data, characteristic patient profiles relating to patterns of disease and response to treatment can be accessible in the computer memory for comparison purposes. When the system is operative and a new patient has been studied and rated and the findings have been placed in the computer, it will be possible to immediately compare this new patient with characteristic patient types and to obtain summary statements such as: (1) this patient's social history most closely resembles that of an alcoholic; (2) the mental status findings most closely resemble that of a neurotic; (3) no patient with this profile has so far attempted suicide; (4) this profile suggests the patient will adjust well to the hospital; etc.

This type of brief, concise predictive statement can be presented to the physician in lieu of or in

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Acute Abdomen in a Case of Torsion of an Intra-Abdominal Seminoma of the Testicle

Case Report

Report of a patient with an acute surgical condition of the abdomen. An operation was performed with a working diagnosis of acute appendicitis. However, an intra-abdominal malignant tumor in an ectopic testis with torsion of its pedicle was found in the right pelvis of the patient. In the review of the literature of 21 similar cases, only eight have been of this pure seminoma type. The authors are from the Surgical Service of Missouri Pacific Employees' Hospital where Doctor Passanante is Visiting Surgeon, Doctor Guerra is Chief Resident in Surgery and Doctor Alarcon is Assistant Chief Resident in Surgery.

ALTHOUGH THE OCCURRENCE of an intra-abdominal testicular tumor is not rare, torsion of the pedicle of such a tumor giving rise to signs of an acute, emergency surgical abdomen is very seldom seen.

Twenty-one cases of torsion of the pedicle of an intra-abdominal testicular tumor have been reported previously. Of these tumors, only eight have been of the pure seminoma type.[*]

The case report presented here deals with torsion of the pedicle of an intra-abdominal testicular seminoma which produced the clinical picture of acute appendicitis.

REVIEW

Twenty-one cases of torsion of an intra-abdominal malignant tumor of the testis have been reported previously. The first such case was reported by Gerster[1] in 1898. This was a sarcoma of the testicle with a twisted pedicle in a 21-year-old man. Six similar additional cases of sarcoma were later reported by Stiles in 1905,[2] Boese in 1907,[3] Le Conte in 1907,[4] Key in 1914,[5] Chitty in 1933[6] and Jessa in 1936.[7] Four cases of embryonal carcinoma of the testicle with torsion of the pedicle were reported by Jonsson in 1933,[8] Vastola in 1933,[9] Whittington in 1943[10] and Warres in 1954.[11] One case of intra-abdominal teratoma of the testicle was reported in 1927 by Pearlmann.[12]

One case of torsion of an intra-abdominal testicular tumor was reported by Rosa in 1959,[13] although the pathology was unspecified.

Eight cases of torsion of an intra-abdominal seminoma have been reported. The first case was submitted by Lecene in 1913.[14] Burk in 1938,[15] Guibal in 1946,[16] Bennett in 1947,[17] Charendoff in 1951,[18] Edelstein in 1955,[19] Johnson in 1960[20] and Packham in 1965[21] contributed the additional seven cases.

The symptomatology and clinical findings of all these reported cases were somewhat similar and the possibility of acute appendicitis was the primary consideration in diagnosis. In this case, the possibility of the presence of an intra-abdominal testis was not considered because of the misleading history of a right orchiectomy as an infant.

CASE REPORT

A 39-year-old white man was admitted on Feb. 4, 1967 to the St. Louis-Little Rock Hospital in St. Louis with a history of acute, severe, sharp pain localized in the right lower quadant of the abdomen and radiating down to the inner aspect of the right thigh. It began four hours prior to admission. There was no accompanying nausea or vomiting. The patient stated that he had always had difficulty in moving his bowels. On the day prior to admission he had taken a laxative, after which he had three loose stools which were mixed with fresh blood. He attributed the presence of blood in the stools to his hemorrhoids. Two months previously, the patient had had a similar episode of pain which was brief and disappeared spontaneously. There had been no weight loss. His past history revealed that his right testicle had been removed because of "an infection" when he was five weeks old. He was married and had two children.

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[*] The authors of this article have notified MISSOURI MEDICINE that while this paper was being processed for publication, another case of torsion of an intra-abdominal testicular seminoma was reported in *The Journal of Urology*, 98:684, Dec., 1967 by H. E. Garber and G. I. Kauffer. The case described herein, then, is the 23rd case of torsion of an intra-abdominal malignant tumor of the testis and the tenth in which the tumor is a pure seminoma.—ED.

Physical examination revealed a fairly well-developed, well-nourished white man in acute distress because of abdominal pain. His oral temperature was 98.8 F (37.1 C) and his rectal temperature was 100.0 F (37.7 C). The pulse rate was 72 and his blood pressure was 150/94. The pertinent findings were elicited by the abdominal and rectal examinations. The abdomen was flat and generally soft except in the right lower quadrant where there was muscle guard and marked localized tenderness even on superficial palpation. The right lumbar region also revealed some tenderness on palpation and to light punch. Hypoactive bowel sounds were present and there was diffuse tympany on percussion. No mass could be palpated abdominally. No herniae were palpated in the groin. There was no generalized lymphadenopathy. The right testicle was absent. There was edema of the outer anal rim and digital examination was painful.

After the patient was emptied of urine by catheter, rectal examination revealed a large, round, soft, tender mass that was smooth in outline and was projecting onto the right rectal wall about 7 cm to 8 cm above the anal verge. This nearly occluded the rectal lumen and gave the impression of being an extrinsic tumor originating from the right pelvis. The WBC was 11,250 with the differential showing two eosinophils, 85 polymorphs and 13 lymphocytes. The hemoglobin was 13.2 gm/100 cc and the hematocrit was 40%. The urinalysis revealed a specific gravity of 1.020, and microscopically there were 5 to 8 WBC per high powered field. No sugar or albumen were reported. The chest x-ray was normal. The obstructive x-ray series of the abdomen revealed findings suggestive of paralytic ileus with slight distention of small and large intestines. No free intraperitoneal air could be detected. The clinical picture suggested an acute surgical abdomen, probably of appendiceal origin. The patient was prepared for emergency surgery.

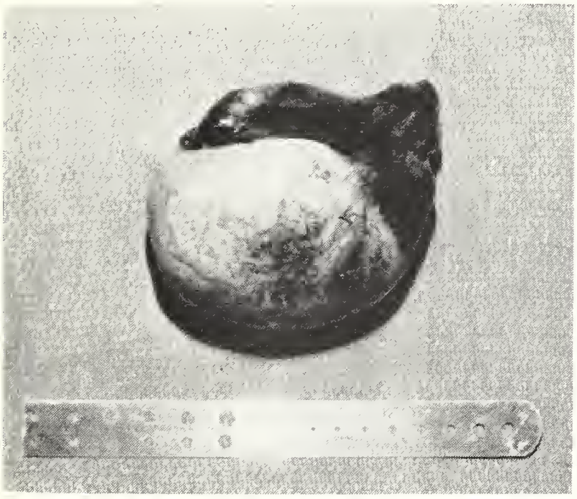

Fig. 1 Tumor of the right testicle with torsion of the pedicle.

At laparotomy, through a midline umbilico-pubic incision, peritoneal transudate was encountered and the bowel was found to be somewhat distended throughout. The appendix appeared normal. Bowel mobilization was accomplished to allow visualization and palpation of a tumor in the right pelvis compressing the rectum. The mass was glistening, smooth, rounded, bluish in hue and soft, measuring 9 cm × 8 cm × 6 cm (Fig. 1). A twisted pedicle, turned 1½ times counter-clockwise, was found supporting the mass. The pedicle measured about 6 cm in length. There were no binding adhesions, and no gross signs of invasion were present. There was no palpable enlargement of lymph nodes in the pelvis or along the aorta. It was ascertained that the mass represented an ectopic, tumorous testis with torsion of its pedicle. The pedicle was divided close to its peritoneal origin and the mass thereby removed. Further exploration failed to reveal any abnormal intraperitoneal findings. The appendix also was removed. The postoperative course was uneventful and the patient was discharged on the tenth postoperative day. Arrangements were made for Tumor Clinic follow-up.

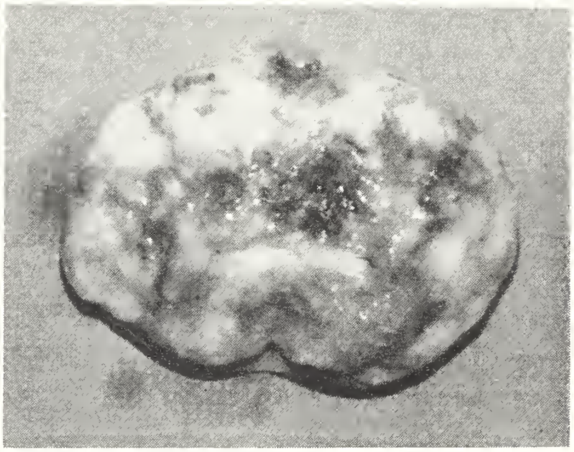

Fig. 2 Longitudinal section of the right testicular tumor.

Postoperative intravenous pyelograms were found within normal limits. The 17-Ketosteroids were normal.

The specimen weighed 260 gm. Sectioned longitudinally, the appearance was one of infarction, hemorrhage and of a greyish to yellow gelatinous tumor (Fig. 2). The histologic study revealed typical seminoma cells, hemorrhagic areas and lymphocytic infiltration (Figs. 3 and 4).

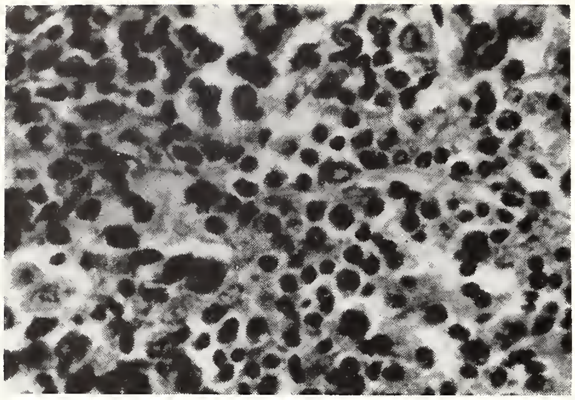

Fig. 3 Histology showing seminoma cells. (100 ×)

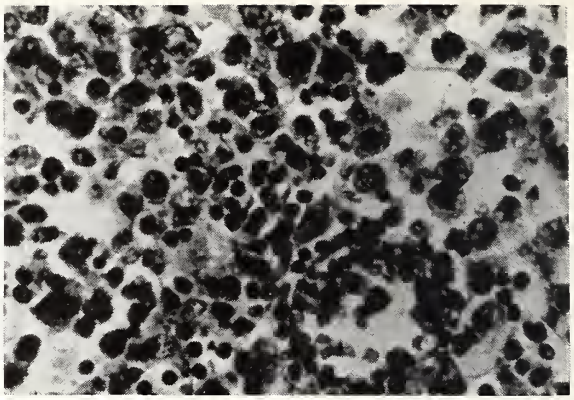

Fig. 4 Testicular seminoma. (400 ×)

Summary

A case of an acute abdomen caused by torsion of the pedicle of an intra-abdominal testicular seminoma is presented.

This is the 22nd case of torsion of an intra-abdominal malignant tumor of the testis and the ninth in which the tumor is a pure seminoma.

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Computer Processing (Cont'd)

addition to the complete report. It can be presented early in the treatment process before deciding on a course of treatment. This type of advice should be of considerable assistance to the physician, but, as with any laboratory report, he will be obliged to place it in proper perspective.

Plans and Objectives

A state program which is integrated and collaborating as closely as ours is ideally prepared for the follow-up of patients which is needed for the computer system to contribute to its fullest. Within a year following full institution of the program which will include mental status examination, psychiatric history, nursing notes, etc., we will have data on 9,000 admitted and discharged patients. With adequate statistical handling of the stored data, we will be able to develop summary statements as described above. We hope to save valuable staff time and allow the staff more time for other types of meaningful interchange with patients.

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Angiitis Following Procainamide Therapy

Case Report

ADVERSE REACTIONS to necessary drugs constitute a growing and often perplexing number of illnesses confronting the physician. Procainamide (Pronestyl) has proved its worth in the therapy of cardiac arrhythmias. Drug fever,[1] rash and adenopathy,[2] and agranulocytosis[3] have been seen as adverse reactions in association with this drug. In 1962, it became apparent that procainamide also was capable of producing a clinical illness indistinguishable from lupus erythematosus, associated with either a positive lupus cell preparation or fluorescein test for antinuclear antibody.[4] Two similar cases were reported from this clinic in 1964[5] and four more elsewhere in 1965.[6] Ladd's original case of the lupus-like syndrome in 1962[4] contained a description of a periarteritis confirmed by biopsy. Rosin[7] recently described a vasculitis with positive lupus erythematosus cell preparations subsequent to therapy with this drug. Because of the apparent rarity of vasculitis associated with procainamide therapy, the following case is presented in which angiitis occurred subsequent to the use of this drug but without evidence of lupus erythematosus.

This case report suggests that the angiitis associated with procainamide therapy can occur independently of the lupus erythematosus syndrome associated with adverse reactions to this drug. Doctor Dolan is in private practice with the Glenn Turner Clinic of Internal Medicine.

CASE REPORT

A 74-year-old retired farmer was initially seen on June 8, 1964 and admitted to St. John's Hospital for congestive heart failure of acute onset. There was no antecedent history of rheumatic fever or alcoholism. He was found to be in atrial fibrillation with a grade III (VI) holosystolic murmur and a prominent opening snap audible at the apex. When the ventricular rate was controlled by digoxin (Lanoxin), a low-pitched, rumbling diastolic murmur of grade II intensity could be auscultated. A multinodular goiter was incidentally found. His blood pressure was 160/90. The liver descended 1 cm below the right costal margin with deep inspiration. Bromsulfalein excretion was 32.9% at 45 minutes. Protein bound iodine was 9.1 μg/100 cc with a 24 hour radio-iodine uptake of 21%. Other liver function tests were normal with the exception of the total serum bilirubin which was 1.35 mg/100 cc (0.2 mg/100 cc direct) and the alkaline phosphatase which was 6.9 Sigma units. A tri-iodothyronine resin uptake test was normal and the patient clinically was euthyroid. His ventricular rate was controlled easily with digoxin. A normal gallbladder series was then obtained and further thyroid studies could not be done at that time. A repeat protein bound iodine three months later was 8.4 μg/100 cc.

Three months following myocardial re-compensation, bromsulfalein retention was 22.6%. The patient was readmitted on Sept. 21 for liver biopsy. Two attempts, however, were unsuccessful in obtaining any hepatic tissue with a Menghini needle. Because of his cardiac disease, open biopsy was deemed unwise. His status had improved clinically and, hence, he was discharged. He developed intermittent substernal pain with exertion which was controlled with nitroglycerin, and he maintained good myocardial compensation with digoxin and hydrochlorothiazide (Hydrodiuril, Esidrix, Oretic).

In June, 1966, because of ventricular extrasystoles, he was placed on quinidine sulfate 0.2 gm every six hours. Nausea developed. Quinidine polygalacturonate also created nausea. He was changed to procainamide 0.5 gm three times daily. Nausea again was produced, so all of these drugs were abandoned since he was only mildly symptomatic.

In December, he began having syncopal episodes and an electrocardiogram revealed intermittent bigeminal coupling of ventricular extrasystoles. It was suspected that he was having transient ventricular arrhythmias so he was again placed on procainamide 0.5 gm three times daily. He experienced no further syncopal episodes. Two weeks later, however, he developed a generalized purpuric-ecchymotic eruption over both lower extremities which subsequently became generalized. He developed nosebleeds, but a platelet count was 155,000. One of the lesions was biopsied (Fig. 1) and he was admitted to the hos-

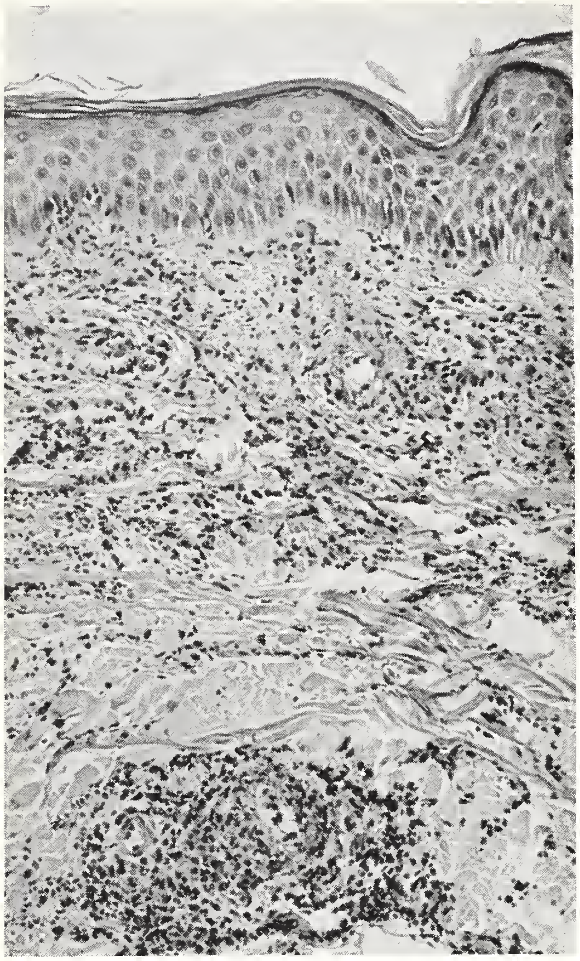

Fig. 1 Photomicrograph of skin biopsy demonstrating perivasculitis within dermis. Hematoxylin and eosin stain employed at 100 × magnification.

pital. The cardiac findings were unchanged, the lungs were clear, the spleen and liver were not palpable and he was afebrile. His chronic atrial fibrillation was unchanged.

Aside from the generalized eruption, the patient felt well. His platelet count was 325,000 and his partial thromboplastin time was 63 seconds (normal up to 38). There was microscopic hematuria. The lupus erythematosus cell preparation was negative. Total serum bilirubin was 2.2 mg/100 cc (direct 0.7 mg/100 cc). Urinary urobilinogen was 1.3 mg/24 hr (normal). Bromsulphalein was 43% retained and serum electrophoresis revealed an albumin of 2.98 gm/100 cc and gamma globulin of 2.06 gm/100 cc, with beta-gamma "bridging" indicative of profound liver dysfunction. An intravenous pyelogram was normal. Procainamide and hydrochlorothiazide were discontinued and Prednisone, 20 mg daily was started. The rash dramatically cleared over the course of seven days. The patient was placed on hydroxyzine hydrochloride, 50 mg three times daily, and sodium diphenylhydantoin, 0.3 gm daily, in addition to his digoxin, 0.25 mg daily in hope of preventing recurrent arrhythmias. He was started on chlorthalidone (Hygroton), 100 mg daily, and discharged doing well on this regimen.

One week later, he developed anorexia and weakness. He was readmitted on Feb. 15, 1967 with intermittent disorientation and asterexis. By this time, he had been tapered off of Prednisone. It was suspected that he was in liver failure. There were no dermal signs of liver disease other than a faint icterus. A liver scan revealed marked diminishment in size of the liver with a questionable lesion of the dome in the anterior aspect of the right lobe. Open surgical liver biopsy was attempted as a calculated risk. Although the liver was found to be approximately half-size, it appeared otherwise normal. A wedge liver biopsy from several areas was normal microscopically. On the first postoperative day, the patient died suddenly.

Postmortem examination revealed a fresh thrombus occluding the circumflex branch of the left coronary artery, moderately severe coronary arteriosclerosis, a McCallum's patch in the left atrium and some thickening of the left leaflet of the mitral valve. Both focal lipoid pneumonia and focal, acute hemorrhagic pneumonia were found in the lungs. The liver weighed only 915 gm but was morphologically normal, grossly and microscopically. The thyroid revealed a multiple colloid nodular goiter and the gallbladder revealed cholelithiasis. No explanation for the patient's deranged liver function could be found other than the diminished size of the organ. Evidence of vasculitis could not be found at autopsy. No lesions suggestive of lupus erythematosus were encountered. Cardiac findings were typical of mixed rheumatic and arteriosclerotic heart disease.

DISCUSSION

Hydrochlorothiazide, the only other drug of serious suspicion in this instance, has been known to create vascular petechiae of the lower extremities which subside promptly on discontinuance of the drug. They are mild, affect areas of gravitational stress only and usually occur within the first month or two of therapy. This patient had been receiving the drug approximately three years without adverse effect. His generalized purpura (which extended to the trunk, upper extremities, neck and, presumably, kidneys) occurred rather fulminantly two weeks after beginning procainamide for the second time. His previous exposure to the drug had been six months earlier and was limited to approximately two days. Rosin[7] postulated a mechanism noted by Holman[8] that procainamide might act in combination with body proteins as a hapten resulting in antibody formation. An alternate hypothesis

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Biochemical Screening in Missouri Psychiatric Hospitals: Preliminary Results

Automation of biochemical procedures is now routine in large hospitals. Recently introduced equipment makes it possible to simultaneously measure ten or more serum constituents on a small sample. As a result, many institutions now perform a routine "biochemical screen" on all newly admitted patients and sometimes on all sera submitted.

Screening surveys from general hospitals and from the free-living population have discovered a surprisingly high percentage of persons with one or more biochemical abnormalities.[1, 2] Recent advances in the treatment of the mentally ill have changed the character of the patient population in psychiatric hospitals. Increasingly, hospitalized patients are older and have significant somatic as well as psychiatric disease. It seemed appropriate to screen the population of large state hospitals, both to determine if they are biochemically comparable to the population at large and to alert the attending physicians to the presence of somatic disease or pre-disease states which might benefit from appropriate treatment.

Materials and Methods

The sample consisted of 2,296 patients from the St. Louis State Hospital and 1,057 from the State Hospital at Fulton (Table 1). Sera were usually obtained two hours after the morning meal, although a number were taken at other times of the day.

Eleven biochemical analyses were performed on each specimen, using a system of linked Autoanalyzers* running at the rate of 60 tests an hour. Standard Autoanalyzer methods were used.[3] The eleven tests were serum glucose, urea nitrogen, creatinine, alkaline phosphatase, SGOT, calcium, inorganic phosphorus, uric acid, total protein, albumin (and, by difference, globulin) and cholesterol.

Precision error of measurement is shown in Table 2. Results were processed by an IBM 1410 computer. The results presented here are the first obtained from an ongoing study. Each patient is to be tested again at yearly intervals.

TABLE 1

SAMPLE DISTRIBUTED BY AGE AND SEX

Decade of Age	*St. Louis Males*	*Fulton Males*	*St. Louis Females*	*Fulton Females*
20-29	134	106	74	14
30-39	141	101	172	37
40-49	166	112	234	51
50-59	246	150	276	66
60-69	204	118	301	94
70-79	78	55	190	89
80-89	20	19	60	45
	989	661	1,307	396

Results

Test results were evaluated by criteria based on an optimal range of good health. "Normal limits" for each test were set for each sex by using the 99% limits of the distribution curve of results obtained from 600 optimally healthy, young college student blood donors at the University of Missouri Medical Center.

The criteria do not allow for age-related alterations in test values, such as those of serum uric acid and inorganic phosphorus where values tend to be higher in young males than in older persons.[4] Unquestionably, for these tests, significant changes in older patients are not detected when our criteria are used, and the optimal range should be determined in some other way. For most tests, however, the optimal range places emphasis on the surprisingly large group of older persons whose biochemical values are no different from those of the young. A long range objective of this study is to prove or disprove the thesis that the group of elderly patients with optimal laboratory values are healthier and longer-lived than those with abnormalities and that a change from optimal criteria also makes it possible to detect subtle and early test changes which might otherwise be ignored.

The total number of abnormal values for each

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* Trademark of Technicon Corp., Ardsley, N. Y.

TABLE 2

OPTIMAL RANGE OF TEST RESULTS AND ERROR OF MEASUREMENT FOR TEST BATTERY

Test	*Optimal Range*	*Precision Error of Measurement (Standard Deviation)*
Glucose	60 -125 mg/100 cc	± 3 mg/100 cc
Urea nitrogen	4 - 21 mg/100 cc	± 0.5 mg/100 cc
Creatinine	0.4- 1.5 mg/100 cc	± 0.09 mg/100 cc
Alkaline phosphatase	4 - 15 KAU	± 0.6 KAU
SGOT	8 - 44 S-F units	± 4 S-F units
Calcium	8.7- 11.0 mg/100 cc	± 0.3 mg/100 cc
Inorganic phosphorus	2.0- 5.3 mg/100 cc	± 0.2 mg/100 cc
Cholesterol	120 -250 mg/100 cc	± 10 mg/100 cc
Uric acid	2 - 7 mg/100 cc (females) 2 - 8 mg/100 cc (males)	± 0.2 mg/100 cc
Total protein	6 - 8.5 gm/100 cc	± 0.1 gm/100 cc
Albumin	3.8- 6.0 gm/100 cc	± 0.3 gm/100 cc

test was calculated. The sample was divided into subgroups by decade of age and by sex and the number of abnormal values for each test determined as a percentage of the entire sample. Tables 3 and 4 show the results, demonstrating the overall incidence of abnormality and the increase in incidence of abnormality with advancing age. The incidence of patients with more than one abnormality also increased with age as shown in Table 5.

DISCUSSION

The sample is adequate to show trends by decade of age and sex, although there is a striking disproportion of females in the Fulton population. The incidence of abnormality by decade was roughly the same in both hospitals, but the distribution of abnormalities was sometimes markedly different. The incidence of hyperglycemia and hypercholesterolemia was higher in the St. Louis group, while many more patients at Fulton had elevations of serum creatinine and either depression or elevation of serum calcium. Some of these trends are definitely caused by the small size of sample per decade for Fulton females. Other differences are not so easily explained. There are slight but meaningful sex differences in values for some tests, especially serum uric acid and calcium, which are higher in males, and cholesterol and globulin, which are higher in females. In later decades of life, the sex differences become less pronounced and even disappear.

Many of the women had slight decreases in serum calcium which may reflect age, dietary differences or the presence of osteoporosis. Tests which did not discriminate in that there were few abnormal values were serum creatinine, inorganic phosphorus, SGOT and albumin. Phosphorus levels are probably non-discriminatory because

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TABLE 3

ST. LOUIS—PERCENTAGE OF ABNORMAL RESULTS PER TEST PER DECADE

Decade	GLUCOSE	SUN	CREAT	A.P.	SGOT	CA	P	CHOL.	URIC ACID
20-29 female	3	0	0	1	0	5	0	5	3
20-29 male	6	0	3	1	6	2	0	12	4
30-39 female	9	0	0	2	0	9	0	13	2
30-39 male	6	3	1	4	4	6	0	10	6
40-49 female	14	2	1	2	2	8	0	16	5
40-49 male	15	4	4	0	2	2	0	9	4
50-59 female	15	10	1	3	3	8	0	26	9
50-59 male	18	7	3	3	3	2	0	8	4
60-69 female	17	13	6	5	2	6	0	31	10
60-69 male	25	20	5	2	0	3	0	7	8
70-79 female	20	22	3	2	3	5	0	20	10
70-79 male	26	44	11	8	1	3	0	4	11
80-89 female	25	27	1	1	5	12	0	13	15
80-89 male	30	65	15	0	0	5	0	0	5

TABLE 4

FULTON—PERCENTAGE OF ABNORMAL RESULTS PER TEST PER DECADE

Decade	*Tests* GLUCOSE	SUN	CREAT	A.P.	SGOT	CA	P	CHOL.	URIC ACID
20-29 female	0	0	0	7	0	7	0	14	7
20-29 male	0	0	7	7	1	7	0	7	4
30-39 female	3	3	6	0	0	15	0	24	0
30-39 male	2	2	12	5	5	15	0	9	4
40-49 female	6	2	0	2	2	14	2	14	4
40-49 male	2	4	11	2	2	6	0	8	7
50-59 female	6	11	3	3	0	14	0	14	3
50-59 male	5	9	9	3	1	9	0	12	7
60-69 female	12	23	7	5	3	8	0	11	4
60-69 male	9	18	12	3	2	7	0	7	6
70-79 female	9	18	3	1	1	7	1	9	8
70-79 male	2	15	11	2	2	2	0	9	4
80-89 female	2	33	16	11	0	8	0	4	4
80-89 male	5	32	16	11	0	—	0	5	16

of the arbitrary selection of young persons in the establishment of the "optimal" normal range.

Had some standard other than "optimal" values been used, the incidence of abnormal results would have been different but most of the trends observed would have remained the same. Using "optimal" criteria, about 6% of the test results were abnormal and 30% of the patients had one or more abnormal results. By far, the most common finding was an abnormally elevated serum glucose. This is in accord with the findings of others[2] and demonstrates an increasing inability to maintain serum glucose homeostasis with advancing age. Whether this should be considered a "normal process of aging" or a true disease in older persons is presently a subject for debate.[5, 6] The debate is important since the interrelationship of glucose intolerance, hyperlipidemia, hypertension and coronary artery disease has been demonstrated in several recent studies.[7] Is the hyperglycemia of old age truly diabetes mellitus? Should it be treated to forestall arteriosclerotic, retinal and renal complications of diabetes? Or should it be ignored?

Although serum cholesterol may not be a good predictor of atherosclerosis in an individual patient, on a population basis elevation in mean serum cholesterol is correlated with an increased incidence of coronary artery disease.[8] In this study, the increasing number of hypercholester-

TABLE 5

NUMBER OF ABNORMALITIES IN THE TEST BATTERY BY DECADE OF AGE AND SEX AS A PERCENTAGE OF TOTAL SAMPLE

Decade	*Number of Abnormalities* MALES					FEMALES				
	Fulton									
	0	1	2	3	4	0	1	2	3	4
20-29	70	23	7	0	0	73	24	3	0	0
30-39	67	23	7	3	0	63	27	8	2	0
40-49	69	22	9	0	0	63	26	9	1	1
50-59	64	26	8	2	0	45	38	10	5	1
60-69	51	33	11	4	1	43	39	11	1	4
70-79	34	29	15	6	4	46	36	11	5	1
	St. Louis									
20-29	77	21	4	0	0	71	22	7	0	4
30-39	58	38	3	1	0	62	32	3	3	0
40-49	66	29	5	0	0	57	41	2	0	0
50-59	67	26	4	2	1	56	32	10	2	0
60-69	55	32	9	2	0	51	37	8	3	0
70-79	65	23	12	0	0	59	30	9	0	2

The advent of automation procedures has made it possible for large hospitals to perform a routine "biochemical screen" on all newly admitted patients. The authors report results of a screening survey of 3,353 psychiatric patients, the first obtained from an ongoing study. Doctor Van Peenen is Associate Professor of Pathology, University of Missouri School of Medicine and Director of the Multiphasic Testing Laboratory, Missouri Regional Medical Programs; Doctor Files is Resident Physician at the School of Medicine; and Doctor Wood is Director of the Clinical Laboratory, Department of Psychiatry at the Missouri Institute of Psychiatry, University of Missouri School of Medicine in St. Louis. This study was done in cooperation with St. Louis State Hospital and Fulton State Hospital of the Missouri Division of Mental Diseases. This paper was supported in part by USPH Grants No. RM 00009-01-0-MTAP and No. CD00235.

olemic patients in each successive decade to age 70 correlates well with the expected increase in arteriosclerotic heart disease with aging. It is paradoxical that both mean serum cholesterol and the number of hypercholesterolemic patients per decade are uniformly higher in women, although the expected incidence of coronary artery disease is higher in men.

It is not obvious why there were so many cases of serum uric acid elevation at all ages. At first glance, it would seem due to the setting of inappropriately tight optimal limits. However, serum uric acid levels and limits are higher for young males in the 20's than for any other group, and it is precisely this group that was used to set the optimal limits. Since patient histories were not reviewed, it is impossible to say how much of the observed hyperuricemia is drug-induced. At any rate, the percentage of patients with hyperuricemia is far greater than the percentage of patients who can be expected to develop clinical gout. There was no good correlation between serum uric acid, creatinine and urea. The uric acid was very often elevated in the absence of an increased serum urea nitrogen.

Urea nitrogen elevations were usually in the range of 22-35 mgm/100 cc and not accompanied by a rise in serum creatinine. The finding documents again the well-known nitrogen retention of old age, probably reflecting the nearly 50% loss of functional renal mass occurring between 30 and 70 years of age.[9, 10]

For a number of tests (glucose, urea, cholesterol), the population mean value changed with age. The change could have been due either to a shift in the distribution curve, so that all patients showed a rise in the constituent as they grew older or to an inclusion of progressively more abnormal persons in the older population groups. Although both processes seem operative, plots of frequency distributions by decade suggest that the latter process was primarily responsible for the changing mean of serum glucose and cholesterol while both are equally responsible for changes in serum urea. Table 6 shows the population mean for all subjects (uncorrected) and the population mean after all patients with abnormal values have been removed (corrected). For most tests, the majority of the aged change test results only slightly as they grow older. It is possible that those who do change markedly are metabolically different and perhaps less healthy.

TABLE 6

CHANGES IN MEAN VALUE WITH AGE

	Decade					
Mean Values	20-29	30-39	40-49	50-59	60-69	70-79
Glucose males uncorrected	90	94	101	107	114	109
Glucose males corrected	85	89	91	94	96	95
Glucose females uncorrected	89	97	104	106	109	108
Glucose females corrected	84	87	91	93	94	94
Cholesterol males uncorrected	202	199	205	204	201	189
Cholesterol males corrected	171	190	199	199	196	185
Cholesterol females uncorrected	198	212	215	225	227	218
Cholesterol females corrected	189	202	203	202	203	201
Urea Nitrogen males uncorrected	12.5	13.0	14.0	15.0	18.0	23.0
Urea Nitrogen males corrected	12.5	12.5	13.0	14.5	15.5	12.5
Urea Nitrogen females uncorrected	10.8	11.7	12.6	15.5	16.6	18.8
Urea Nitrogen females corrected	10.8	11.7	12.4	13.9	16.4	16.0

Although it may be mathematically unsound to select persons in this way for exclusion from the sample, it would appear that for each of the tests there is a group of patients who change test values with age and another group who do not.

Although more than 60% of the patients tested in the 70-79 age group had one or more abnormalities, it is equally remarkable that so many of the other tests remain at optimal values and that so many of the patients had no abnormalities at all for this test battery, even when using rigid criteria.

In thus defining two populations on the basis of blood chemistry findings—those who become "abnormal" with age and those who do not—it becomes necessary to determine whether "normalcy" in this sense is predictive of longer life with less disease. Certainly the few results in octogenarians shown here suggest that glucose intolerance of a mild degree is compatible with a long life, while hypercholesterolemia is not. Differences in morbidity of the two groups must be prospectively observed and correlated with changes in blood chemistry from normal to abnormal as they occur. This is being done.

SUMMARY

1. Three thousand and three hundred and fifty-three psychiatric patients, most of them middle-aged or elderly, were tested for 11 blood constituents commonly used in diagnosis of organic disease.

2. Approximately 30% of all patients and 60% of the elderly ones had one or more abnormalities as defined by rigid criteria derived from an optimally healthy population. The incidence of abnormal values increased progressively with age in both sexes. Conversely, most patients, though abnormal for one or two tests, did not deviate from the optimal for others despite their age.

3. Most of the abnormalities were in serum glucose, urea, uric acid and cholesterol.

Studies are in progress to determine whether patients with test abnormalities are more susceptible to degenerative disease than those without.

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Angiitis (Cont'd)

was that the drug directly triggered an abnormal reactive system for antibody synthesis in a person with a so-called lupus diathesis. No evidence of lupus erythematosus could be found in the case presented here and it is proposed that the pre-existence of the lupus state is not necessary for the development of the angiitis.

SUMMARY

A 74-year-old man developed a generalized vasculitis producing purpura two weeks after the second institution of procainamide therapy. Although simultaneously on hydrochlorothiazide, the temporal occurrence of events would tend to incriminate the former drug. It subsided with omission of the offending agent and addition of Prednisone.

The patient subsequently died of a postoperative myocardial infarction. Hepatic function abnormalities remained unexplained despite autopsy. No evidence of a lupus-like syndrome could be found. It is suggested that the angiitis associated with procainamide therapy can occur independently of the lupus erythematosus syndrome associated with adverse reactions to this drug.

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Special X-Ray Exhibit

High Dysphagia

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Clinically, the complaint of dysphagia suggests hiatal hernia, esophageal cancer or achalasia to the practitioner. This presentation describes two unusual causes of pharyngeal dysphagia. Each of these is detectable by conventional roentgenologic technics (cinefluorography is unnecessary), esophagoscopic study is usually confirmatory and each disease is readily amenable to nonoperative management.

Sideropenic Dysphagia, a syndrome linked to disturbance in iron metabolism and mucosal atrophy, is manifest radiologically by an anterior pharyngo-esophageal incisura. A web at the esophageal introitis produces the defect.

Cricopharyngeal Dysphagia, a pharyngo-esophageal sphincteric incoordination, is manifest by a posterior indentation of the barium column. A contracted, hypertrophic cricopharyngeal sphincter is responsible.

A conclusive etiologic explanation is not available for either condition. As a matter of fact, each lesion is especially enigmatic inasmuch as both cricopharyngeal webs and "lips" are identified, when sought, in adults without abnormal deglutition or anemia.

The statistical relationship of cancer of the oropharynx or esophagus to the web of the Plummer-Vinson syndrome has been proved but unexplained. Similarly, the probability of a causal relationship between cricopharyngeal incoordination and Zenker's diverticulum remains undefined.

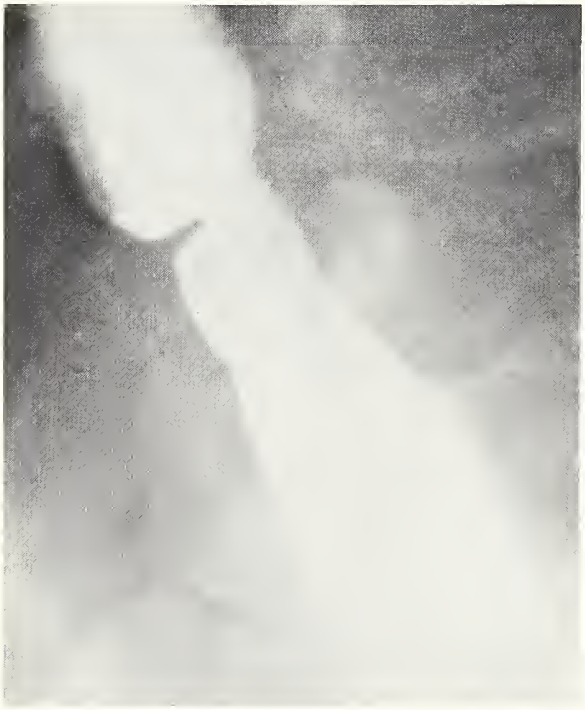

Fig. 1 Case #1.

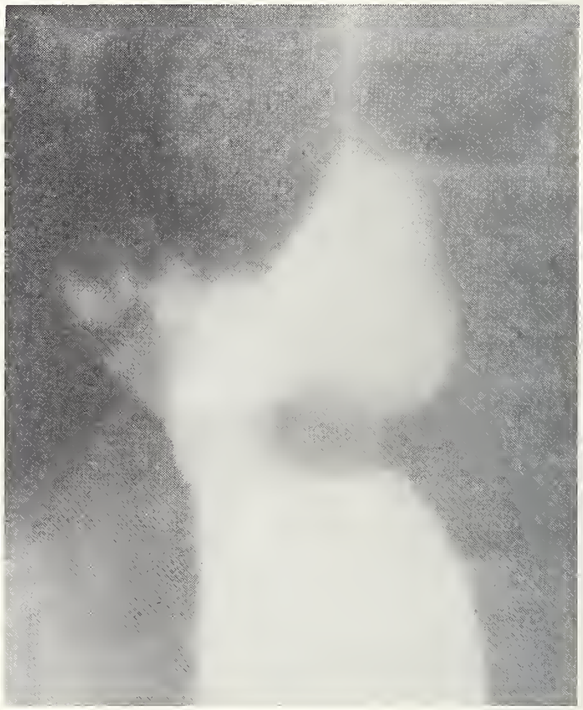

Fig. 2 Case #2.

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* Doctor Dietz is Director, Department of Diagnostic Radiology, Burge-Protestant Hospital and Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

Case # 1. *Sideropenic Dysphagia.* A 40-year-old woman suffered from anemia since age 12. Although responsive to iron, liver extract and vitamin B 12, the anemia frequently necessitated transfusions. Complaints at examination were dysphagia, weight loss and weakness. (Cheilosis, spooned nails, glossitis and mild splenomegaly were present.) The anemia was hypochromic and microcytic; a bone marrow aspirate revealed absence of stainable iron. The esophageal incisura is characteristic of the Plummer-Vinson syndrome (Fig. 1).

Case # 2. *Cricopharyngeal Dysphagia.* Complaints: Swallowing difficulties (solid foods, particularly) for two years; frequent regurgitation of food; intermittent hoarseness and strangling.

The shelf-like defect involves the posterior wall of the cervical esophagus at the site of the cricopharyngeal sphincter; proximal pharyngeal dilatation is slight (Fig. 2).

The esophagoscopist encountered a mass bulging into the proximal esophagus, preventing passage of the esophagoscope. Esophageal dilatation ameliorated dysphagia by the time of discharge.

Differential Diagnosis

Esophageal Webs, Notches, Bands, Folds, Lips

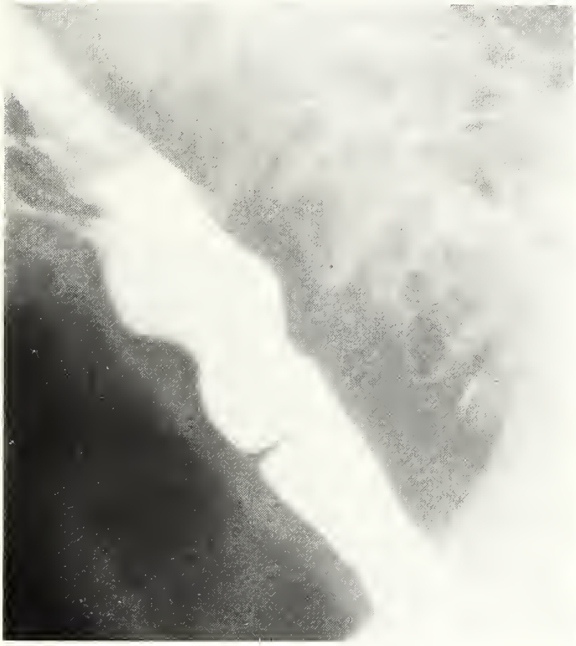


Fig. 3 Anterior Esophageal Web.

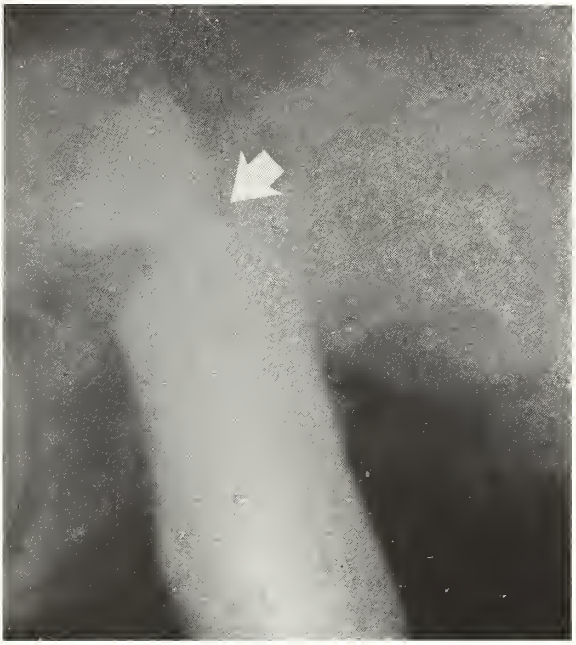


Fig. 4 Circumferential Esophageal Ring.

An anterior esophageal web that is roentgenologically indistinguishable from the Plummer-Vinson type defect. The patient complained of dysphagia, but was otherwise free of stigmata of the sideropenic syndrome (Fig. 3).

A circumferential esophageal ring at the thoracic inlet level in a man with neither dysphagia nor anemia—a clinically insignificant contour variation frequently detected by pharyngo-esophageal-conscious fluoroscopists (Fig. 4).

Lateral Pharyngeal Diverticula. Pharyngeal diverticula, protruding through the lateral wall of the laryngopharynx, are rare and ordinarily asymptomatic (Fig. 5). *Pharyngo-Esophageal Diverticulum.* By contrast, a Zenker's pouch, the only esophageal diverticulum which commonly causes symptoms, may enlarge insidiously, retain food and eventually obstruct the anteriorly displaced esophagus. This typically pear-shaped pouch extends into the mediastinum from its origin from the midline of the posterior wall of the pharyngo-esophageal junction (Fig. 6).

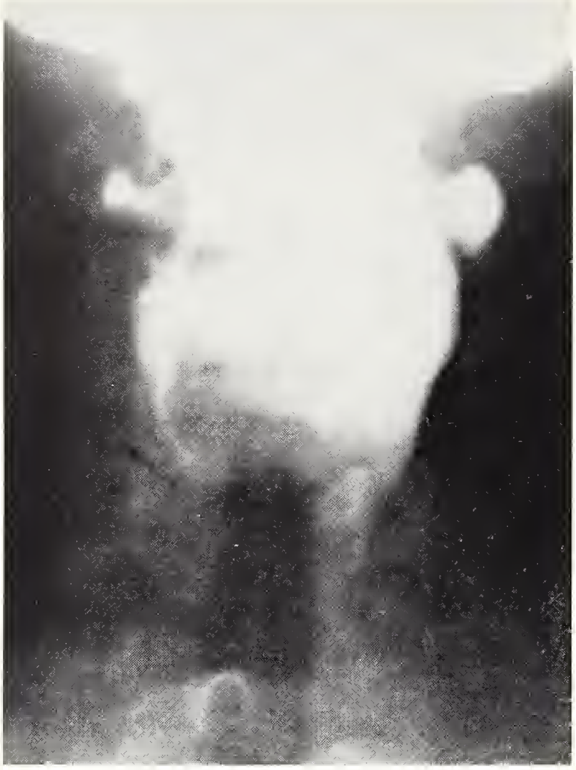


Fig. 5 Lateral Pharyngeal Diverticula.

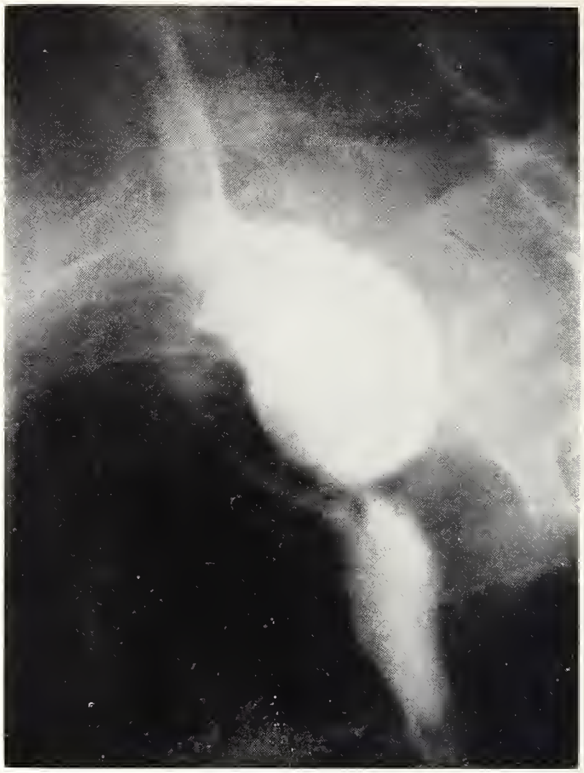


Fig. 6 Pharyngo-Esophageal Diverticulum.

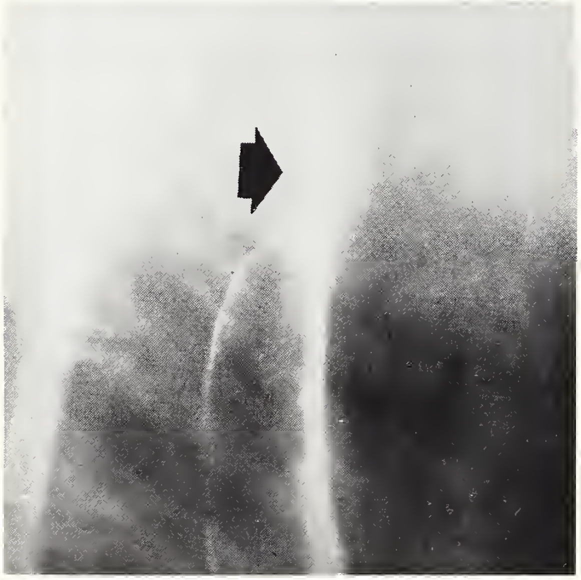


Fig. 7 Ectopic Right Subclavian Artery.

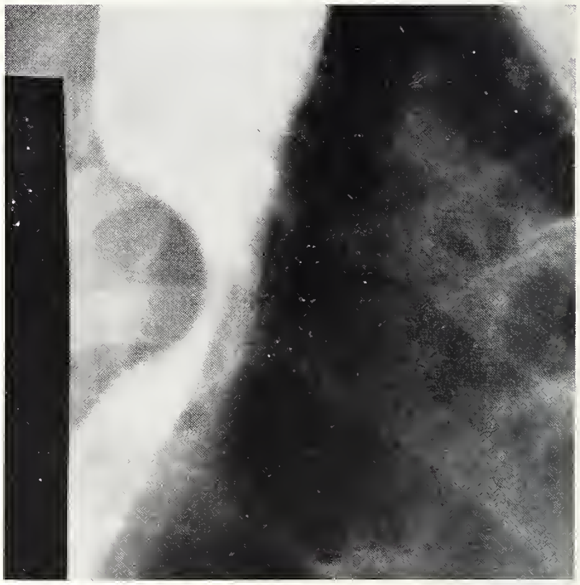


Fig. 8 Right Aortic Arch.

Dysphagia Lusoria, an uncommon type of deglutitory problem, results from esophageal compression by an aortic arch developmental anomaly. The usual case of arteria lusoria is an ectopic right subclavian artery. Arising as the last branch on the left side of a normal aortic arch, it impinges upon the posterior esophageal wall as it courses upward and to the right (Fig. 7).

The readily recognizable right aortic arch also may produce a posterior marginal esophageal filling defect. Swallowing difficulties, however, are unusual. This woman developed dysphagia at the age of 62, probably the result of arteriosclerotic aortic widening (Fig. 8).

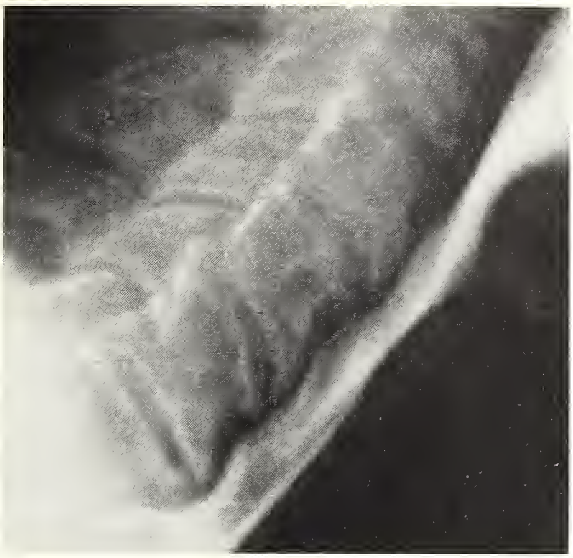


Fig. 9 Osteoarthritic Cervical Spurring.

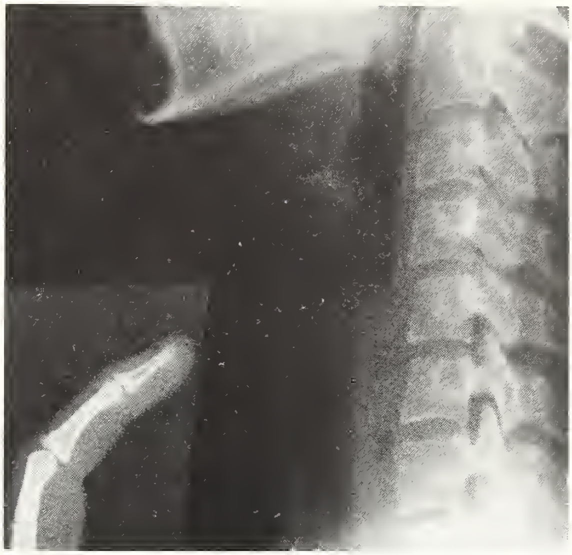


Fig. 10 Globus Hystericus.

Osteoarthritic Cervical Spurring. These degenerative exostoses arising from cervical vertebrae may impinge upon both the pharynx and the esophagus. This elderly patient experienced dysphagia only when swallowing solid foods (Fig. 9).

Globus Hystericus. Classically, the overtly neurotic patient points to this level as she describes her "lump in the throat" . . . apparently a paresthesia, not associated with organic esophageal disease (Fig. 10).

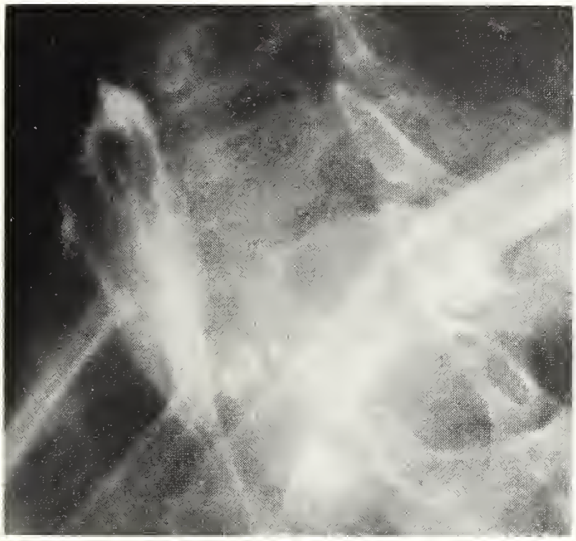


Fig. 11 Foreign Body.

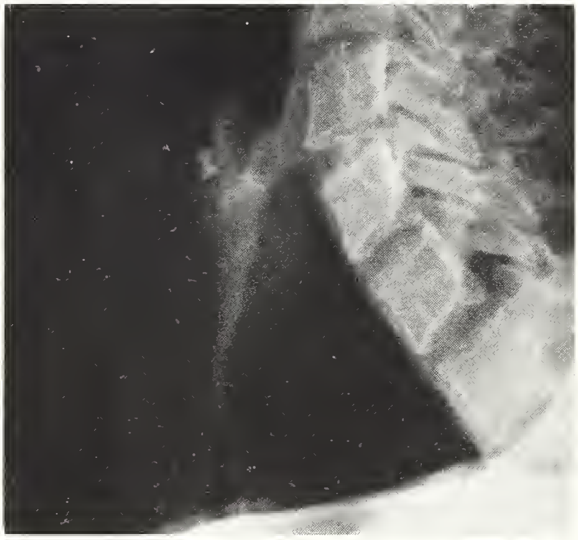
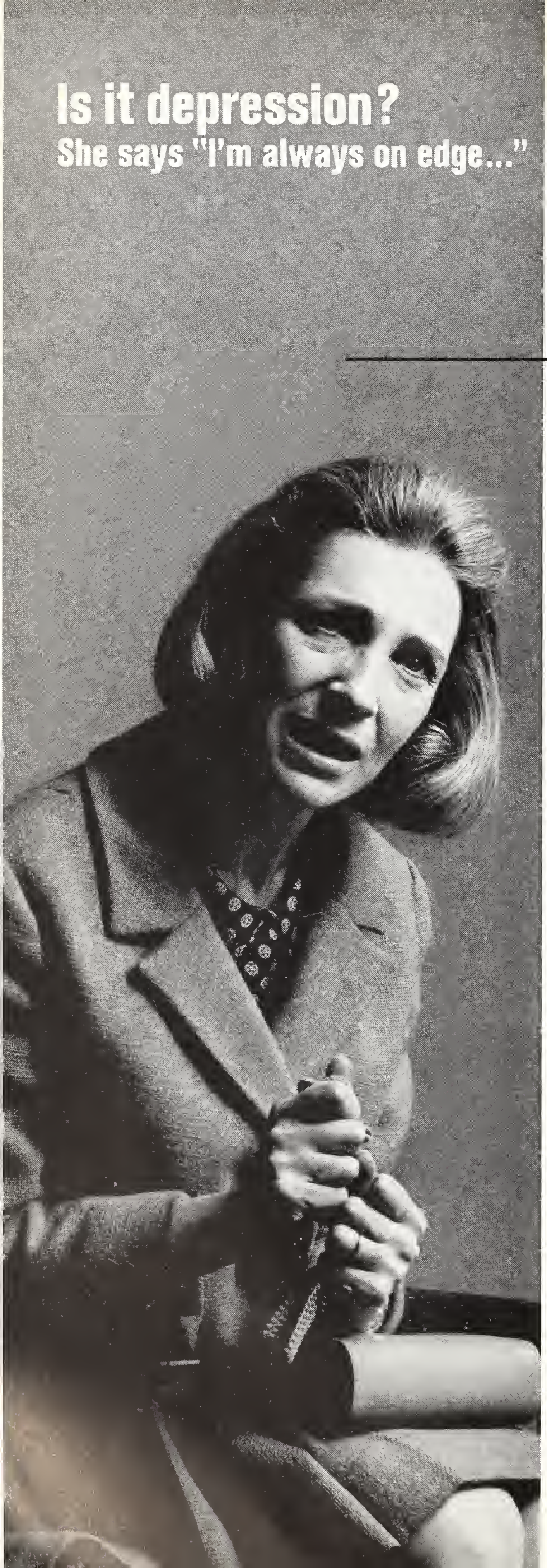


Fig. 12 Achalasia.

Impaction of a chunk of meat above the thoracic inlet in a debilitated or senile patient may result from improper mastication due to careless or gluttonous eating or reduced sensation of the hard palate because of a full upper denture.

This elderly patient complained that "something was lodged" in his neck. After removal of the impaction, thorough examination disclosed no underlying lesion (Fig. 11).

The most exotic case in this collection! The mega-esophagus of longstanding *achalasia* may attain tremendous dimensions, filling the entire mediastinum and emptying only when the height of the column of ingesta extends to the aortic arch level. However, dilatation of the cervical esophagus to the level of the introitus is indeed unique (and a sign of scandalous neglect) (Fig. 12).



Is it depression?

She says "I'm always on edge..."

...but her other symptoms: depressed mood, insomnia, anorexia, feelings of guilt strongly suggest an underlying depression.

---

when the diagnosis is depression

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Contraindications: Glaucoma and predisposition to urinary retention. Not recommended in pregnancy.

Precautions and Side Effects: Drowsiness may occur within the first few days of therapy. Patients should be warned against driving a car or operating machinery or appliances requiring alert attention. When depression is accompanied by anxiety or agitation too severe to be controlled by ELAVIL HCl alone, a phenothiazine tranquilizer may be given concomitantly. Suicide is always a possibility in mental depression and may remain until significant remission occurs. Supervise patients closely in case they may require hospitalization or concomitant electroshock therapy. Untoward reactions have been reported after the combined use of antidepressant agents having varying modes of activity. Accordingly, consider possibility of potentiation in combined use of antidepressants. Monoamine oxidase inhibitor drugs may potentiate other drugs and such potentiation may even cause death; permit at least two weeks to elapse between administration of two agents; in such patients, initiate therapy with ELAVIL HCl cautiously with gradual increase in dosage required to obtain a satisfactory response. Caution patients about errors of judgment due to change in mood, and that the response to alcohol may be potentiated. May provoke mania or hypomania in manic-depressive patients.

Side effects include drowsiness; dizziness; nausea; excitement; hypotension; fine tremor; jitteriness; weakness; headache; heartburn; anorexia; increased perspiration; incoordination; allergic-type reactions manifested by skin rash, swelling of face and tongue, itching; numbness and tingling of limbs, including peripheral neuropathy; activation of schizophrenia which may require phenothiazine tranquilizer therapy; epileptiform seizures in chronic schizophrenics; temporary confusion, disturbed concentration or, rarely, transient visual hallucinations on high doses; evidence of anticholinergic activity, such as tachycardia, dryness of the mouth, blurring of vision, urinary retention, constipation; paralytic ileus; jaundice; agranulocytosis.

Careful observation of all patients is recommended. The antidepressant activity may be evident within 3 or 4 days or may take as long as 30 days to develop adequately, and lack of response sometimes occurs. Response to medication will vary according to severity as well as type of depression present. Elderly patients and adolescents can often be managed on lower dosage levels.

Supplied: Tablets ELAVIL HCl, containing 10 mg., 25 mg., and 50 mg. amitriptyline HCl, bottles of 100 and 1000; Injection ELAVIL HCl, in 10-cc. vials, containing per cc.: 10 mg. amitriptyline HCl, 44 mg. dextrose, 1.5 mg. methylparaben, and 0.2 mg. propylparaben.

Before prescribing or administering, read product circular with package or available on request.

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WHERE TODAY'S THEORY IS TOMORROW'S THERAPY

President's Message

The annual meeting of the House of Delegates has come and gone, and the Council, the Committees and your state officers have their guidance for the coming year. I felt that it was a worthwhile session that served to solidify our stand on many issues and give direction to some problems which have become perennial, such as Blue Shield.

I am particularly hopeful that the St. Louis Blue Shield problem can be settled and I am in the process of implementing the direction of the meaningful resolution which was adopted. This problem is not peculiar to Missouri. There is likely to be negotiation at the national level, also. The MSMA Committee will be formed and, hopefully, will start meeting with officials of Blue Shield before you read this issue of MISSOURI MEDICINE. I am hopeful that the wishes of the concerned districts of MSMA will be fulfilled.

David N. Kerr, M.D.

While we were in session in Kansas City, the Missouri Department of Welfare issued its first "General Order" announcing the limitations of payments for injection therapy and the advice that all physicians use oral medications whenever possible. This, of course, smacked of dictating and was foreign to the understanding with which we had been cooperating. The Department erroneously believed that our Medical Specialties and Medical Economics Committees had agreed with this move. Therefore, the Executive Committee of the Council of the MSMA met with officials of the Department of Welfare in Jefferson City on Wednesday following the annual convention. We were successful in obtaining a revocation of the letter. In that three-and-one-half-hour session, however, it became apparent that the further course of this attempt at cooperation will pose more problems.

At the onset of the plan last year, it was felt that fees would be the big hurdle. This has not been the case, in general. Presently, utilization is the problem and the question must be settled. We pointed out that this problem has its own potential for settling itself after the program has been active for a sufficient time and if we all try to justify our use of treatments, especially when injectables are required.

The present officials of the Department of Welfare seem eager to work with us, but they are limited by budgetary allowances. It is my impression that those who are running this program are unhappy, to say the least, with the burden of the job and the lack of staff. If they give up or retire and others come in, however, we might not have the rapport we now enjoy. To be able to sit down with these officials and obtain a reversal of a ruling bodes well for our ability to continue to participate in this program.

Finally, the dedication of Drs. Hector W. Benoit, Jr., Gerald I. Miller, Joseph L. Fisher, Doyle C. McCraw and John I. Matthews of the Executive Committee; Dr. Stanley S. Peterson, a member of the Advisory Board of the Department of Welfare; and Dr. Herber C. Wiegand, chairman of our Medical Economics Committee, should prove to all that the guidance of our policies is in excellent hands. It proves to me that I shall not lack for the best in help and advice during the coming year.

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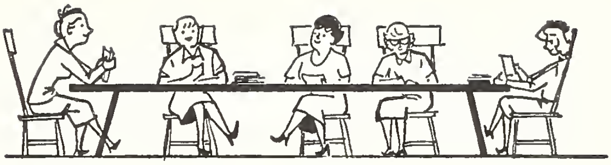
Woman's Auxiliary



I would like to share with you the following article from *The Direct Line*, a newsletter published by the Woman's Auxiliary to the American Medical Association entitled "What Is the Role of State Leaders?"

"State leaders are a vital link between the National Auxiliary and the counties where programs and projects come to life. A paramount task of state officers and chairmen is to translate national goals to county auxiliaries.

"The National Auxiliary provides general information, suggests priority projects and prepares educational material to assist state and county leaders. There are informative meetings at the national convention, a national conference for state presidents and presidents-elect each fall in Chicago, national regional workshops for state chairmen, program packets and *The Direct Line* (newsletter from national for state leaders) for county, state, and national leaders. *MD's Wife* (the magazine published by the National Auxiliary) goes to every paid member and exposes her to 'what the auxiliary does.'

Mrs. E. F. Butler, President

"What any auxiliary does is strictly up to the state and county auxiliary leaders and their medical society advisors. No two states are alike. For example: in the area of mental health, some state legislatures have provided adequate funds for hospitals, out--patient care and rehabilitation of the mentally ill and retarded. Health education in the schools depends upon the action of the state board of education. It is useless to urge local schools to include health education programs if time is not allotted for it. Therefore, it is urgent that state boards of education understand the importance of health education.

"State leaders also must assist with all phases of membership. They continue to try to organize new auxiliaries, give support and help to the large auxiliaries where the greatest membership void exists, and give constant attention to small auxiliaries wtih scattered membership.

"The role of the state leader calls for knowledge and dedication, for imagination and courage and for hours of hard work."

The above paragraph so well describes our past leaders of the Woman's Auxiliary to the Missouri State Medical Association. Our women of Missouri are a dedicated group always working to improve the health standards in their own communities.

Indications: Tofrānil is recommended for the treatment of depressive states of diverse psychopathology.
Contraindications: The concomitant use of Tofrānil and monoamine oxidase inhibiting (M.A.O.I.) compounds is contraindicated. Hyperpyretic crises or severe convulsive seizures may occur. Potentiation of adverse effects can be serious or even fatal. An interval of at least 7 days after M.A.O.I. therapy has been discontinued should be allowed before Tofrānil may be substituted. Initial Tofrānil dosage should be low, increases should be gradual, and the patient's progress should be carefully observed.
Warning: Clinical reports have suggested that there may be a risk of teratogenesis associated with the use of this compound during the first trimester of pregnancy. Unless, in the opinion of the prescribing physician, the potential benefits outweigh the possible risks, Tofrānil should not be used during the first trimester of pregnancy.
Cardiovascular complications, including myocardial infarction and arrhythmias, have occasionally occurred in susceptible individuals. Patients with cardiovascular disease should be given the drug only under careful observation and in low dosage.
Precautions: Since suicide is always a possibility in severely depressed patients and one which may persist until significant remission occurs, such patients should be carefully supervised during early treatment with Tofrānil. Some severely depressed patients may also require hospitalization and/or concomitant electroconvulsive therapy.
Because of its anticholinergic effect, caution should be observed in prescribing Tofrānil for patients with increased intraocular pressure.
In rare instances, transient cardiac arrhythmias have occurred in hyperthyroid patients and in patients receiving thyroid medication when Tofrānil was added to the regimen. Imipramine may block the pharmacologic activity of guanethidine and other related adrenergic neuron-blocking agents.
The drug is not recommended at the present time in patients under 12 years of age.
Adverse Reactions: Dryness of the mouth, tachycardia, constipation, disturbances of accommodation, sweating, dizziness, weight gain, urinary frequency or retention, nausea and vomiting, peripheral neuritis, mild parkinson-like syndrome, tremors, rare cases of falling in elderly patients, confusional states (with such symptoms as hallucinations and disorientation), activation of psychosis in schizophrenics and agitation (includ-

Get them while they're easily reversible.

Obesity doesn't happen suddenly. This insidious process has its beginning—and the chances of reversing it are better—during the *first 10 to 15 pounds of weight gain.* When a new dietary pattern must be established, consider the adjunctive use of BAMADEX SEQUELS. Combining the proven *anorexigenic* action of d-amphetamine with the *tranquilizing* effect of meprobamate, BAMADEX SEQUELS controls appetite throughout the day, usually with a single capsule daily.

Contraindications: Dextro-amphetamine sulfate: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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EDITORIALS

"EASTER" TIME

or

"You Always Meet People a Second Time" (author unknown)

In 1964, a group of interested citizens concluded that the routine practice of handling chronic alcoholics as criminals was in need of review. This led in March of 1966 to the now famous Easter decision by the U. S. Court of Appeals. The Court upheld Mr. Easter by stating that conduct cannot be criminal unless it is voluntary. Thus, Mr. DeWitt Easter, a medically diagnosed chronic alcoholic, could not be convicted of criminal charges for displaying symptoms of his disease in public.

We will meet "Mr. Easter" a second time this spring. How? Where? Why? The United States Supreme Court has agreed to hear a similar case (Powell vs. Texas, No. 405). It is anticipated that this decision will reinforce the Easter decision and clearly define our social and legal responsibilities towards alcoholics. This pronouncement will doubtless be as rude an awakening and as important and far-reaching in effect as the Brown decision was in the matter of school desegregation.

Although there is some general awareness that alcoholism is a treatable illness, society in general is unprepared to accept the immediate, full impact of *non-jail* alternatives for chronic alcoholics. It seems unthinkable at this point in history that public officials are still putting sick people in jail. It seems equally incredible that we physicians allow treatment to be dispensed by judges and law enforcement agencies.

The examples of witch trials, mental illness, leprosy and epilepsy must have been forgotten by medical and legal members of our society. These too were at one time punishable by law, but through the centuries have been recognized as diseases best handled within the medical profession. Chronic alcoholism now has also matured to this stage of recognition.

This sudden massive shift of chronic alcoholics from a criminal to a health jurisdictional area will result in chaos for our communities unless we can rapidly upgrade our professional treatment units and health facilities to handle this additional service. Chronic alcoholism is the fourth largest disease category in the United States, being preceded only by cancer, heart disease and mental illness. Conservative estimates are that 150,000 cases of chronic alcoholism exist in our own state of Missouri and up to 6 million cases in the entire United States.

This disease will be thrust upon the health planners of our state and nation at a time when it has been said it is the fastest growing, least understood and most neglected (research-wise) of all diseases.

Professional and public attitudes must view this disease in its proper perspective, devoid of stigmatic implications, if we are to survive this medical crisis. Patients with this disease must be allowed the same general hospitalization privileges for detoxification, as those with other toxic diseases and syndromes. This also would imply that they should derive similar benefits from their health insurance programs.

Can we plan for the handling of this new influx of patients through existing community facilities? If we are to avoid chaos, plans should be tailor-made for each individual community. We have the knowledge, the potential staff, the engineering skills as well as material resources to adequately discharge this conglomerate medical-legal-social responsibility. However, *attitude* is the key catalytic agent which is the progenitor of success or failure.

We can plan for the future with the individual physician, medical society, medical schools, hospitals and health centers having a voice in these programs so that they are the most effective and efficient for each community and its individual alcoholic population. We can resolve to be adequate in our contributions as a profession so that when we do meet these people a second time, it will not be as accident cases or in terminal illness wards, mental hospitals, jails or prisons, but as members of a healthy society contributing to our American Way of Life.

Can our Medical Society meet this challenge? Can we capture and tame this disease as we have other stigmatic diseases in the past? Can we give the same full measure of devotion and interest to treating this illness as we do other diseases?

We must remember that medical conquests can be achieved only after accepting the challenge. If we ignore the challenge and fail to develop adequate detoxification and rehabilitation programs, we will undoubtedly abdicate yet another professional area to federal control.

The "Easter" eggs are incubating and will soon hatch. What will we do with them?

MAX E. TEARE, M.D.
Member, MSMA Committee on Alcoholism

DOCTORS OFTEN ARE POOR BUSINESSMEN

(The following editorial was written by Dr. Blaine Z. Hibbard, chairman, to interpret the purpose of the recommendations of the MSMA Committee on Utilization Review concerning the processing of Medicare forms and Medicare outpatient care in the physician's office as approved by the Council of the MSMA on Dec. 9-10, 1967.—THE EDITORS)

It is a foregone conclusion that even though a physician practices excellent medicine, he still can be a poor businessman.

One point in question is the procedure many of us have been following in handling Medicare form #SSA1490. We have spent a great deal of time on the telephone and in person giving explanations to our patients concerning the completion of this form, and our office personnel probably has spent even more time doing so. Even then, the end result (after the patient fills-out the form) is often complete chaos. This again starts the vicious cycle of questions, answers, further instructions, etc.

How much simpler it would be if one of our office personnel would complete the top half of the form for the patient or, even better, complete the entire form (including checking the appropriate box relative to taking assignment or not), so that it is done correctly the first time. This procedure certainly would save the doctor's time and, if it saves him time, it saves him money.

Another fact that should be considered is that there are businessmen in Congress. If it costs the government and the fiscal intermediary two to three times as much to service incorrectly-completed forms as it does to service those that are filled-out properly, then we may not be allowed the "luxury" of making our own decision relative to assignment for very long.

One means by which we can at least attempt to keep this "luxury" is by filling out these forms correctly the first time (including checking the appropriate box at the bottom).

What would you do if this were your business?

In regard to office and outpatient care covered in Medicare, with extremely tight hospital bed availability these days, it behooves all doctors to take advantage of the built-in luxury of seeing elderly patients in the hospital out-patient department and/or, preferably, in their offices. Most of us feel that we can do a beter job of examining and treating an appropriate patient for illness in our office than we can in the hospital. This would infinitely ease the bed situation if more of us would take advantage of this provision in the law.

THE DECENT SOCIETY

Our government was founded on certain basic philosophic concepts. All rights and powers are granted to the individual by God. In order to form an orderly functioning society, each individual, by actual or implied consent, surrenders to society as a whole those of his rights which the governing body must have in order to achieve its function, namely an organized society which protects his rights. The administrators of these delegated rights are the elected representatives of the people. Along with the authority which is given to the elected representatives and their administrative assistants goes the responsibility of the proper safeguarding of the basic inherent rights of the individual.

Any government which cannot or will not recognize and protect the rights of every individual has lost its right to govern; it may, as so often occurs, continue to govern by might, not right.

We have been hearing so much about the Great Society that there is a tendency to forget, particularly on the part of appointed governmental agents, that the greatest society is one which respects and protects the rights and privileges of all individuals equally. This function of government may, and frequently does, require the judicious and at times forceful use of the police powers of the government.

Our founding fathers recognized the right of majority rule but at the same time built into our social structure safeguards to protect the rights of the minority against what has been aptly termed the dictatorship of the majority. It was for that reason that certain functions of Congress require a two-thirds vote and other functions require a three-fourths vote for approval. It was also for this reason that majority rule was tempered by building into our governmental system methods of election of representatives in which a one-man, one-vote principle was deliberately disregarded. This latter is best exemplified by the election of the members of the House of Representatives on a population basis and the members of the Senate on a basis of two from each state.

Today there is so much emphasis on the Great Society with its ancillary emphasis on "social reconstruction" that the basic rights of too many of our citizens are being ignored or at best not respected.

Regardless of race, sex, religious beliefs or economic status, no one has the right to walk over the rights of others. Riots in which cars are burned, looting becomes rampant, arson produces millions of dollars worth of damage, as well as the actual bodily harm inflicted on innocent citizens, is not to be tolerated. All citizens must have equal rights and equal protection under the law. No group can be permitted to trample upon the rights of others. Governmental agencies, particularly the police and military arms, must use *all* forces available to them to protect the rights of all. Rights and decency must prevail.

Let us first produce a Decent Society and it will follow that we will have a Great Society.

EDWARD J. TALLANT, M.D., *Editor*

Detroit Medical News

COMMENT . . .

Our Readers Write

Survival After Prolonged Coma

To the Editor

Dear Sir:

The ability of physicians to maintain life for very long periods in the unconscious patient raises the question as to how long such skills should be deployed. As physicians, we are eager to promote the recovery of everyone who can do so. In order to deprive no one of his chances on this score, it is relevant to know the longest periods of coma which have been followed by useful survival.

A committee of the Massachusetts General Hospital is studying our own records and the world literature to determine pertinent features in all patients who, *despite coma for over five weeks,* have made a useful recovery. We think it is vital not to overlook any well documented patient in this category. We should be grateful if any reader of this journal would draw our attention to any case published under a title which is not indicative of survival after prolonged coma. We are also eager to receive accounts of such cases as yet unreported. A publication incorporating our own and others' data is planned.

We should be grateful if you would publish this letter in your journal either in a section for correspondence, as a special brief communication, or in any other fashion you see fit.

Sincerely yours,
William H. Sweet, M.D., D.Sc.
Chief, Neurosurgical Service
Chairman, Committee on Management of the Unconscious Patient
Massachusetts General Hospital
Boston, Massachusetts 02114, U. S. A.

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The pamphlet lists four indications which call for immediate medical attention—severity, persistence, repetition and doubt. Any one of the four is sufficient; two or more increase the urgency. In addition, the pamphlet cites circumstances which indicate that a doctor's help is needed. Some of the common conditions described are blackouts, breathlessness, dizziness, fatigue, headaches, indigestion, itching, sores and swelling.

Single review copies may be obtained from the AMA's Health Education Department. Quantity orders are available from the Order Department at 15 cents each; 12 cents each for 100-499; 10 cents each for 500-999; 8 cents each for 1000 or more.

* * *

The AMA Committee on Cutaneous Health and Cosmetics has announced that the 1968 version of its "Physicians' Publication List" is now available.

Aging skin, cosmetics, hair and soap and cleansing are among the topics mentioned in the six-page brochure, which includes a postage-paid order blank to facilitate handling. One section, devoted entirely to informational pieces for distribution to patients, lists such pamphlets as "Color Her Hair Beautiful," "Vascular Birthmarks and Your Child."

Single copies of the "Publication List," as well as any of the more than 60 leaflets listed, are provided free of charge. To secure your complimentary copy, please direct your request to the Committee at the AMA.

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Adverse Reactions: Drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; miosis; mild fever; weight gain; hypotensive effects, sometimes severe with I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosages (in rare instances, may persist); lactation and moderate breast engorgement (in females on high dosages); and less frequently, cholestatic jaundice (use cautiously in patients with liver disease). Adverse reactions occurring rarely, include: mydriasis; agranulocytosis; skin pigmentation; epithelial keratopathy; lenticular and corneal deposits (after prolonged substantial doses).

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Precautions: In some patients with dry lesions, the solution may increase dryness, scaling, or itching. Application to denuded or fissured areas, such as genital or perianal sites, may produce a burning or stinging sensation. If this persists and dermatitis does not improve, discontinue medication. Although propylene glycol has antiseptic activity, there should be careful initial evaluation and follow-up of infected sites. Incomplete response or exacerbation of lesions may be due to true infection, which requires susceptibility testing and appropriate therapy. On the other hand, saprophytic or low grade infections may clear spontaneously under the influence of Synalar Solution alone. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

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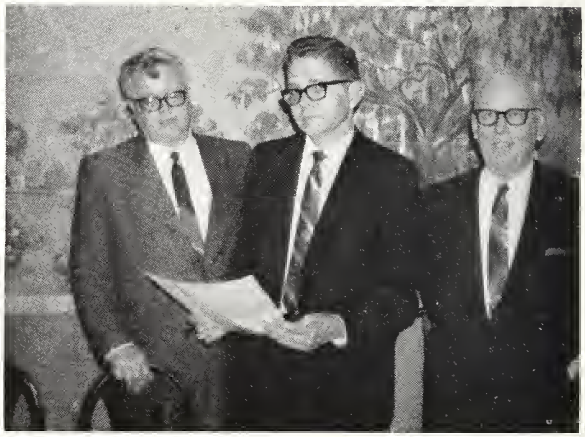
County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH



Drs. Windsor B. Atcheson, William L. Fair and Donald M. Dowell take time out at the Grand River Medical Society meeting to discuss an important matter. Doctor Atcheson is secretary and Doctor Fair is president of the Society. Doctor Dowell is a past-president of the MSMA.

GRAND RIVER MEDICAL SOCIETY

The Grand River Medical Society and Auxiliary met in Chillicothe on March 14. A social hour and dinner preceded the scientific meeting.

Guest speaker for the evening was Robert M. Thomas, M.D., Columbia. An otolaryngologist, Doctor Thomas discussed "External Otitis and the Allergy Phenomenon" and illustrated his talk with a full-cover movie. His program proved to be one of unusual interest.

WINDSOR B. ATCHESON, M.D., *Secretary*

BUCHANAN COUNTY MEDICAL SOCIETY

Fifty physicians attended the March 6 meeting of the Buchanan County Medical Society in St. Joseph. During the business meeting which preceded the program, the Society voted to approve a preliminary draft of a proposed ambulance ordinance for St. Joseph. The model ordinance was based on recommendations of the Trauma Committee of the American College of Surgeons and the National Safety Council.

The speaker was Dr. Donald E. Wells from the Kansas City Artificial Kidney Center. Dr. Wells presented a well-received paper on "Dialysis." He was introduced by Dr. Ernest E. Weinand, program chairman. Dr. Berwyn H. Moen, president, presided at the meeting and program.

OWEN W. D. CRAIG, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

The Lafayette-Ray County Medical Society was held on March 12 in Lexington with 23 members and guests present. The guests were Dr. and Mrs. Donald Senhauser. Doctor Senhauser is a member of the staff at the University of Missouri Medical Center.

Following the dinner, the business meeting was held by President Crozier. Minutes of the last meeting were read and approved. There being no further business, the program was turned over to Doctor Senhauser.

Doctor Senhauser and other members of the staff at the University of Missouri Medical Center recently were members of a team of physicians and technicians who visited in Vietnam where they helped to set up a specific program in the hospitals to improve medical care. They also assisted in setting up better educational programs, primarily in the medical schools and in medical training.

Doctor Senhauser told about the great differences in medical practice in that country compared to that in the United States and the vast differences in the education and training of physicians and technicians in Vietnam. In pointing out these differences and the reasons for them, he briefly discussed the background of Vietnam, emphasizing the very strong French influence in that country. He added that in spite of the loss of French control of Vietnam, this influence still remains dominant.

Doctor Senhauser also pointed out the differences of the people within Vietnam and the conflict of their interests and desires. He said that in addition to not being directly involved in the war between the North and South, the vast majority of people of Vietnam were not even interested in the war and probably cared less about who won or who eventually might become the ruling power of their country.

He mentioned the country's great potential and said that it was his feeling that the country is certainly worth fighting for. He emphasized the fact that what he was actually able to see and observe in the country presented a very different picture than that presented to us by the news media of our country. As a result of his presentation of a lecture and pictures, those present were able to get a different view of the situation in Vietnam and felt that they had been enlightened in regard to the conditions and situation in Vietnam as they really are.

WAYNE BOYDSTON, M.D., *Secretary*

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anticostive, *adj.* (*anti* opposed to + *costive* causing constipation.) Against constipation. (Now isn't that a good idea in an iron-containing hematinic?)

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New Members

Claire L. Tamblyn, M.D., 142 Research Medical Office Bldg., Kansas City, has become a member of Jackson County Medical Society. Dr. Tamblyn is a native of Culver, Indiana, received his preliminary education at Baker University and his M.D. degree at the University of Kansas in 1950. He specializes in anesthesiology.

Gary R. Vart, M.D., 2850 W. Clay, St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Vart is a native of Philadelphia, Pennsylvania, received his preliminary education at the University of Pennsylvania and his M.D. degree at the University of Virginia in 1959. He specializes in obstetrics and gynecology.

In Memoriam

Perry, David C., M.D., Mound City, a graduate of Ensworth Medical College, 1909; member of Northwest Missouri Medical Society; aged 82; died March 1, 1968.

Elliott, James R., M.D., Pasadena, California, a graduate of Rush Medical College, 1914; member Jackson County Medical Society; aged 81; died March 14, 1968.

Langan, William J., Jr., M.D., St. Louis, a graduate of St. Louis University, 1909; member of the St. Louis Medical Society; aged 81; died March 14, 1968.

Peeler, James O., M.D., St. Louis, a graduate of Washington University, 1916; member of St. Louis Medical Society; aged 82; died March 23, 1968.

Gum, William R., M.D., St. Louis, a graduate of National University of Arts and Sciences, 1918; member of St. Louis Medical Society; aged 73; died March 25, 1968.

Parker, Elmer L., M.D., Kansas City, a graduate of University Medical College, 1905; member of Jackson County Medical Society; aged 91; died March 27, 1968.

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Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.
Contraindications: History of hypersensitivity to any component.
Warning: If renal impairment exists, even usual doses may lead to liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. Hypersensitive individuals may develop a photodynamic reaction to natural or artificial sunlight during use. Individuals with a history of photosensitivity reactions should avoid direct exposure while under treatment, which should be discontinued at first evidence of skin discomfort.
Precautions: Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development may cause discoloration of teeth.
Adverse Reactions: Gastrointestinal—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes (a case of exfoliative dermatitis has been reported); photosensitivity; onycholysis and discoloration of nails (rare). Kidney—rise in BUN, apparently dose related. Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. In young infants, bulging fontanels following full therapeutic dosage has been reported. This has disappeared rapidly when drug was discontinued. Teeth—dental staining (yellow-brown) in children of mothers given tetracycline during the latter half of pregnancy and in children given the drug during the neonatal period, infancy, and early childhood. Enamel hypoplasia has been seen in a few children. Blood—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. Liver—cholestasis (rare), usually at high dosage. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

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WASHINGTON

The American Medical Association has stated that the regional medical programs have shown good progress in the early stages, but urged that Congress order an early evaluation by a nongovernment agency.

The AMA position was outlined by Bland W. Cannon, M.D., of Memphis, Tenn., a member of the Association Council on Medical Education, in testimony before the House Subcommittee on Public Health and Welfare. The subcommittee was considering Administration legislation to extend the regional medical program law for five years.

Subcommittee members reacted favorably to an AMA recommendation that the extension be for only three years. Some of the congressmen also indicated opposition to a recommendation by Michael DeBakey, M.D., of Houston, Tex., that appropriations for the regional medical programs be increased sharply.

"We view with favor the early progress of RMP, its ability to build on existing patterns of medical care (sometimes adding new features or changing old ones as local demands and resources make possible) and the local flexibility which allows the program to make a real contribution to the health care of our nation," Dr. Cannon said. "At the same time, we recognize that the concept of the Regional Medical Program is still in its very early stage of existence and that it is difficult to fully appraise the program. We do not know, for example, how much this program adds to the stress on an already overtaxed supply of available medical manpower.

"There is some concern that the proliferation of federal health programs substantially contributes to the rise in health care costs. For this reason, we are pleased that HR 15758 provides for an evaluation of the program. We would suggest, however, that the evaluation begin July 1, 1968, rather than July 1, 1969, since 'evaluation' should be an integral part of the planning. We also suggest that the subcommittee consider further amending Section 102 to provide that the evaluation shall be made by a nongovernment agency. . . .

"We recommend that the subcommittee delete the open-end authorization for funds for the four fiscal years ending after June 30, 1969. In view of the fact that we are still dealing with a relatively untried program, we believe it would be wise to limit the authorization to such sums as this subcommittee may determine to be reasonable, rather than to provide for 'such sums as may be necessary for the next four fiscal years.' "

Henry Brill, M.D., of Brentwood, N. Y., chairman of the AMA's Committee on Alcoholism and Drug Dependence, said that the AMA supported the part of the legislation authorizing federal grants for construction of facilities for a new program for alcoholic and narcotic addict rehabilitation.

"However," he said, "we have long felt that funds for staffing and operation are properly the responsibility of the community, once the major burden of construction has been met with federal assistance."

* * *

The American Medical Association and the Association of American Medical Colleges announced a joint policy designed to increase the number of medical students.

The statement "emphasized the urgent and critical need for more physicians if national expectations for health services are to be realized " and listed immediate and long-range steps that should be taken.

Immediate steps:

1. Increase the enrollment of existing medical schools.

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2. Foster curricular innovations and other changes in the educational programs which could shorten the time required for a medical education and minimize the costs.

3. Meet the need for innovation in educational programs and to encourage diversity in the character and objectives of medical schools. The development of schools of quality where a primary mission is the preparation of able physicians for clinical practice as economically and rapidly as possible is to be encouraged.

"A longer-range approach to the need for physicians is the development of new medical schools," the statement said. "This approach will not solve our immediate, urgent need for more physicians but it is essential for meeting the national needs of 1980 and beyond.

"To implement the measure enumerated above will require adequate financial support from governmental and various private sources for:

"(1) Construction of facilities to expand enrollment of existing schools and to create new schools.

"(2) Support of the operational costs of medical schools.

"(3) Stimulation and incentive for educational innovation and improvement."

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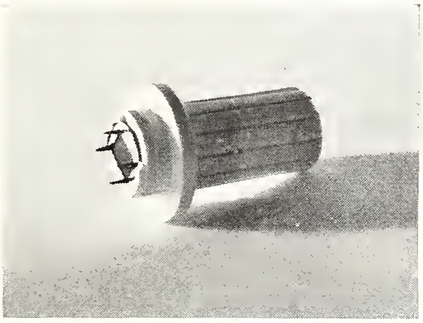

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In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

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Reserve now for the Scientific Awards Dinner in honor of the Scientific Award Winners—Wednesday, June 19, 1968. Since space is limited, we suggest you make your reservations before June 3, 1968. Tickets are $10.00 each, payable in advance.

The complete scientific program, plus forms for advance registration and hotel accommodations, will be featured in JAMA, May 6, 1968.

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WANTED—General practitioner to work with established surgeon in the metropolitan St. Louis area. Salary first year, then partnership if desired. I have staff privileges at St. Josephs Hospital in St. Charles and St. John's Mercy in St. Louis. Contact Box 341, c/o Missouri State Medical Association, 515 East High Street, Jefferson City, Mo. 65101.

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COUNTRY PRACTICE FOR SALE—by M.D. retiring for health reasons. Seven-room, first-floor office building with new furnace, new air-conditioner and humidifier. X-ray with flouroscope, screen, view box, lead storage for films. Photo electric, colorimeter. Instruments for minor surgery and OB. References exchanged. Practice located within 25 miles of Kansas City. Contact Box 340, Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

FOR SALE—Doctors' office building and equipment. Active practice. Retiring. St. Louis County, Mo. Contact Box 344, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

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PEDIATRICIAN to join established department of pediatrics in 17-man midwestern group. Excellent opportunity in a growing-dynamic clinic with early partnership. Town of 33,000 with two hospitals and excellent schools. Clinic staff enjoys regular vacations and time off for study. Write Box 345, c/o Missouri State Medical Association, 515 E. High., Jefferson City, Mo. 65101.

PHYSICIANS—Challenging position in modern hospital emergency unit where main responsibilities are to see emergencies, provide health services to employees and related duties. Baptist Memorial Hospital was opened in 1960 and has 410 beds with approximately 14,000 patients seen annually in the emergency room. The program of compensation is very attractive. Kansas City is "on the move" with a metropolitan area of over 1,000,000 population. There are many activities in the cultural, sports and education realms, as well as much opportunity for recreation. For additional information write: George P. Williams, M. D., Baptist Memorial Hospital, 6601 Rockhill Rd., Kansas City, Mo. 64131, OR call Mr. Hamilton V. Reid, Administrator: 816 Emerson 3-2882.

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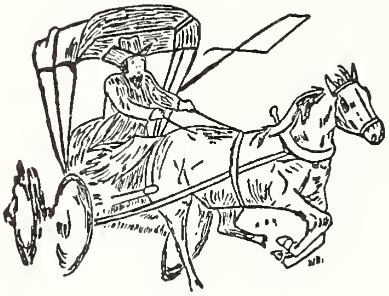
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

Two theories in regard to diabetes mellitus are that there may be excess sugar production of hepatic origin (Van Noorden) or diminished destruction of sugar due to pancreatic deficiency (Naunyn). Experiments with insulin support Naunyn's theory. Frank, at Breslau, developed a guanidine compound known as synthalin which was less toxic than guanidine, but it still possessed the property of lowering the blood sugar. In 1926, German physicians reported favorable clinical results with synthalin, especially in mild cases and in aged individuals. A more liberal diet was possible.

Exhaustive data in regard to 6,807 hospitals was compiled and correlated in the first edition of *The Hospital Register,* published with the March 24 issue of The Journal of the American Medical Association. A glance over the voluminous tabulations shows that Missouri was 13th in the total number of hospitals registered, third in the number of hospitals refused registry and (if this be an index of modernity in hospital practice) 14th in the number of hospitals with physical therapy departments.

The surgical capacity of Barnes Hospital in St. Louis is to be doubled by a $750,000 gift to the Washington University School of Medicine. The gift was from Frank C. Rand and Jackson Johnson, St. Louis, president and chairman respectively, of the board of the International Shoe Company, and the General Education Board, which dispenses the Rockefeller benefactions to education.

TWENTY-FIVE YEARS AGO

Dr. J. I. Byrne, St. Joseph, has been appointed a member of the State Board of Health by the Governor. He succeeds Dr. L. Paul Forgrave, St. Joseph, who resigned.—Major Howard A. Rusk, St. Louis, who has been chief of the medical service at the Station Hospital, Jefferson Barracks, has been transferred to Washington, D. C. and assigned to the staff of Brig. Gen. David D. W. Grant, the air surgeon. Major Rusk will be in charge of the recreation and reconditioning program for hospital patients for all Army Air Corps hospitals.

Book Review: "Ovarian Tumors" by Samuel H. Geist, M.D., Attending Gynecologist, Mount Sinai Hospital, and Clinical Professor of Gynecology, College of Physicians and Surgeons, Columbia University. An important point brought out by the author, which should keep the clinician from blaming the poor pathologist for everything (especially in some of the granulosa type of tumors) is the difficulty of distinguishing between benign and malignant growths. In tumors that appear benign clinically, the entire tumor should be studied since malignant areas may be found. Also, it is stated that some of the tumors found to be malignant histologically are benign clinically.

TEN YEARS AGO

In order to relieve its contamination problem back in 1900, the city of Chicago dug a huge canal to empty all of Chicago's sewage into the headwaters of the Illinois River, thence down to the Mississippi. However, St. Louis, which lies 43 miles below the mouth of the Illinois River, protested having what it described as "1,500 tons of poisonous filth daily" discharged into the Mississippi. Suit was brought in the U. S. Supreme Court to restrain Chicago from injuring St. Louis' water supply. After six years and 8,000 printed pages of testimony, Justice Oliver Wendell Holmes rendered the Court's verdict. St. Louis had not proved its charges of injury and the case was dismissed.

"Father Abraham," an orchestral suite composed by Dr. Vincent T. Williams, Kansas City, made its Kansas City premiere on April 1 at the Wyandotte High School, Kansas City, Kansas. Dr. Mary C. Colglazier, Kansas City, plays first violin in the symphony orchestra.

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No untoward side effects have been reported to date.

Literature on indications and dosage available on request.

References:

(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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MSMA Elects McCraw Next President

The 110th Annual Session of the Missouri State Medical Association was held on March 28, 29, 30 and 31 at The Muehlebach Hotel in Kansas City with 1,207 persons taking part in the various events and programs. Included in the total registration figure were 554 members of the MSMA, 87 guests and 151 members of the Woman's Auxiliary.

The House of Delegates of MSMA held three sessions during the convention, discussing various Association problems and outlining policies and programs for the coming year. At the final meeting of the House, Doyle C. McCraw, M.D., of Bolivar was named President-Elect of the Association.

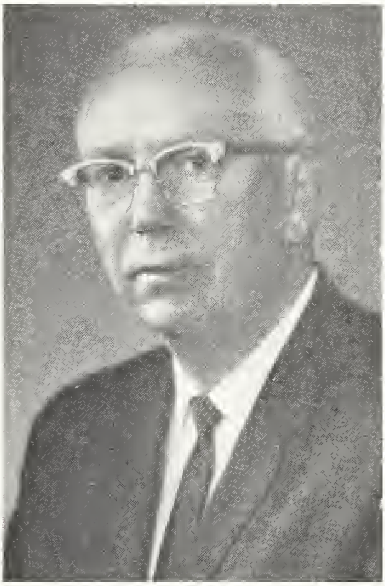
David N. Kerr of St. Louis was installed as the 1968-1969 MSMA President, succeeding Hector W. Benoit, Jr. of Kansas City. Doctor Benoit will continue to serve as a member of the Council for a term of one year.

Other elected officers are Vice-Presidents, Arthur W. Neilson of St. Louis, Charles D. Osborne of Sedalia and Erroll W. Allen of Carrollton; Delegates to the AMA, Stanley S. Peterson of Springfield and J. Loren Washburn of Versailles; Alternate Delegates to the AMA, James C. Sisk of Clayton and Thompson E. Potter of St. Joseph; Speaker of the House, Paul F. Max of St. Louis; and Vice-Speaker, E. D. Imes of Maryville.

Six MSMA Districts elected representatives to serve on the Association Council during the next year. They are Joseph Fisher, St. Joseph, First District; Walter T. Gunn, St. Louis, Third District; James C. Cope, Columbia, Fifth District; Gerald L. Miller, Kansas City, Seventh District; Howard J. McAlhany, Springfield, Eighth District; and E. A. Stricker, St. James, Ninth District.

At the Council meeting which followed the final session of the House, Joseph Fisher of St. Joseph was elected Chairman of the Council; Gerald L. Miller of Kansas City was named Vice-Chairman; John I. Matthews of Jefferson City was re-elected Secretary and Max S. Franklin of St. Louis was re-elected Treasurer.

In view of the continued need for more health manpower, including physicians, educators and paramedical personnel at all levels in our society, plus the fact that there is a shortage of health manpower in Missouri, the House of Delegates approved a resolution urging the prompt development of a complete educational medical center, including a medical school, in Kansas City.



Doyle C. McCraw, M.D.,
President-Elect

The House of Delegates adopted several resolutions concerning the vital importance of organized medicine's participation in Comprehensive Health Planning (Public Law 89-749). In addition to urging all physicians to be vigilant in their own communities in the area of health planning, one resolution "urges that Governor Warren E. Hearnes avail himself to the fullest possible extent of the expert knowledge of health professionals in the implementation of comprehensive health planning in Missouri" and states "that doctors offer their services in planning—in fact, that they insist on being included in planning in their own communities."

Noting that the Planning Program which has been submitted for the State of Missouri was drawn up without the approval or prior knowledge of the Comprehensive Health Planning Advisory Council of Missouri and that the Council, as appointed by the Governor of Missouri, totals 27 people but includes few in the field of Public Health and none in the private practice of medicine, another resolution states "that the House of Delegates of the MSMA go on record by declaring the presently conceived program of Comrehensive Health Planning to be considered unacceptable" and suggests to the Governor "that the membership of the Planning Council be changed to include a reasonable number of practicing physicians."

Also, the House recommended creation of MSMA and component society committees to be concerned with comprehensive health care planning.

So-called and often misunderstood "total health care costs" received attention from the House of Delegates. It was decided that the staff of MSMA each year prepare for publication an accurate report and breakdown of expenditures under Title XVIII (Medicare) and of Title XIX (Medicaid) as they relate to the State of Missouri in order to avoid future misunderstanding and define for the news media and the public the important difference between "total health care" or "medical care costs" and physicians' fees. Purpose of this resolution is to provide for the citizens of the state precise knowledge concerning the manner in which their health care dollars are being spent in new federal and state programs.

The House approved without opposition a Council recommendation that a $10.00 assessment for active members and $5.00 for junior members be made for years of 1969, 1970 and 1971 for support of the Missouri State Medical Foundation.

A Council recommendation concerning the MSMA Ad Hoc Committee to study the cost of Medical care in Missouri was approved by the House. This approved the proposed study as outlined by the Research Center at the University of Missouri with the proposal to be presented to the AMA for implementation and funding because it involves every physician in America.

The Council was directed by the House of Delegates to contact the Missouri Division of Welfare to secure the rescinding of the March 29, 1968, communication by the Division to all physicians in Missouri participating in the Title XIX program regarding injectable medications.

The House approved the Council's recommendation that a new program based on the usual, customary and reasonable fee concept, which had been submitted by Missouri Medical Service, be developed. (See page 424.)

Also, the House directed the President of MSMA to appoint a committee of physicians from the component medical societies of the

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area served by St. Louis Blue Shield to work with a committee from St. Louis Blue Shield whereby changes in the by-laws of St. Louis Blue Shield will be effected to allow nomination and election of the physician members of the Voting Board and Board of Trustees of St. Louis Blue Shield from and by physicians of the area served.

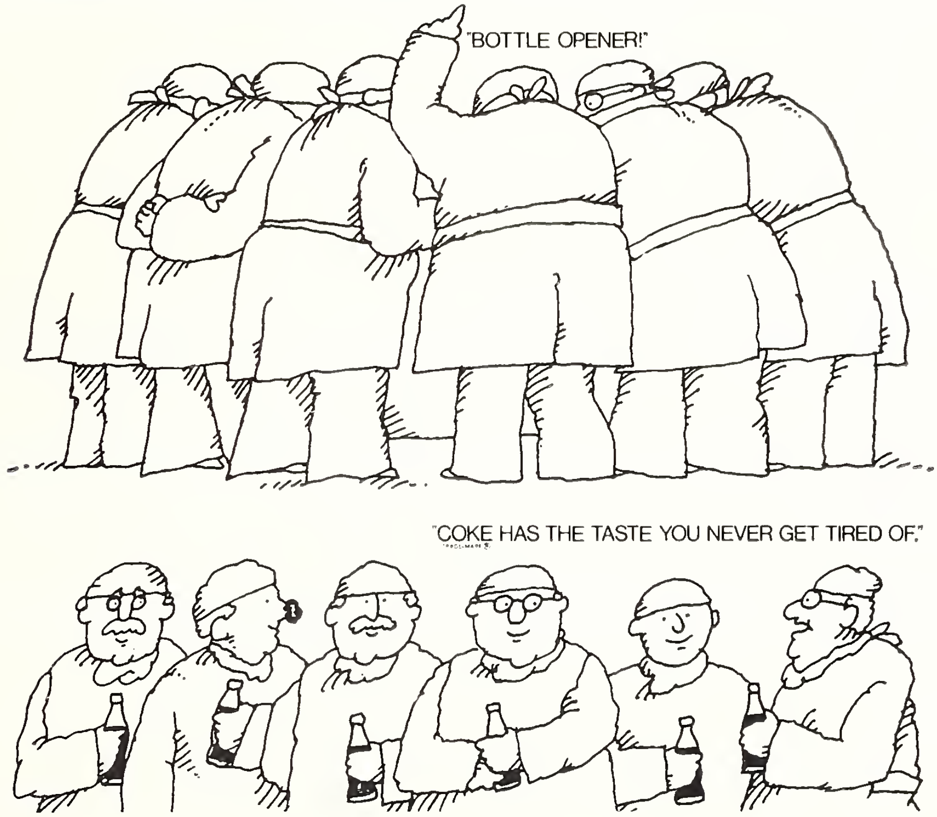
It was decided by the House that the MSMA State Officers' Conference for officers of constituent medical societies, which was held in November, 1967, successfully contributed to the dissemination of information and effective management of the medical association, should be continued and all members of the MSMA be invited to attend.

Some other actions taken by the House of Delegates included the following:

- Reaffirmation of support for a State Medical Examiners System.
- Recommendation to the Missouri Legislature to supply necessary facilities for an increase in the number of medical school graduates in Missouri.
- Opposition to any federal compulsory and coercive promotion of group and hospital practice of medicine as stated in Public Health Service Publication No. 1750.
- Recommendation for investigation of all hospital and medical school staffs to assure citizens of Missouri that all men being presented as licensed physicians and surgeons are entitled to this recognition and, if necessary to maintain the high standards of and qualifications of physicians and surgeons in Missouri, that appropriate increases in examinations and licensing fees be made in order that adequate numbers of investigators may be hired by the Board for the purpose of protecting Missouri citizens by enforcing Missouri's physicians and surgeons laws.
- Approval of a resolution to request a liaison committee with the Missouri State Osteopathic Association to explore the possibility of extending post-doctoral training of interns and residents in medical hospitals in the State of Missouri to qualified osteopathic graduates licensed by the State of Missouri.
- Recommendation that legislation be introduced at the next session of the Missouri General Assembly stating that human blood or tissue for the purposes of transfusions, injections or transplantations be considered a medical service instead of a commodity.

The 111th Annual Session of the Association will be held at the Chase-Park Plaza Hotel in St. Louis on March 20-23, 1969.

(Additional actions of the House of Delegates are included in the official minutes of the 110th Annual Session of the MSMA which will be published in the July issue of Missouri Medicine.)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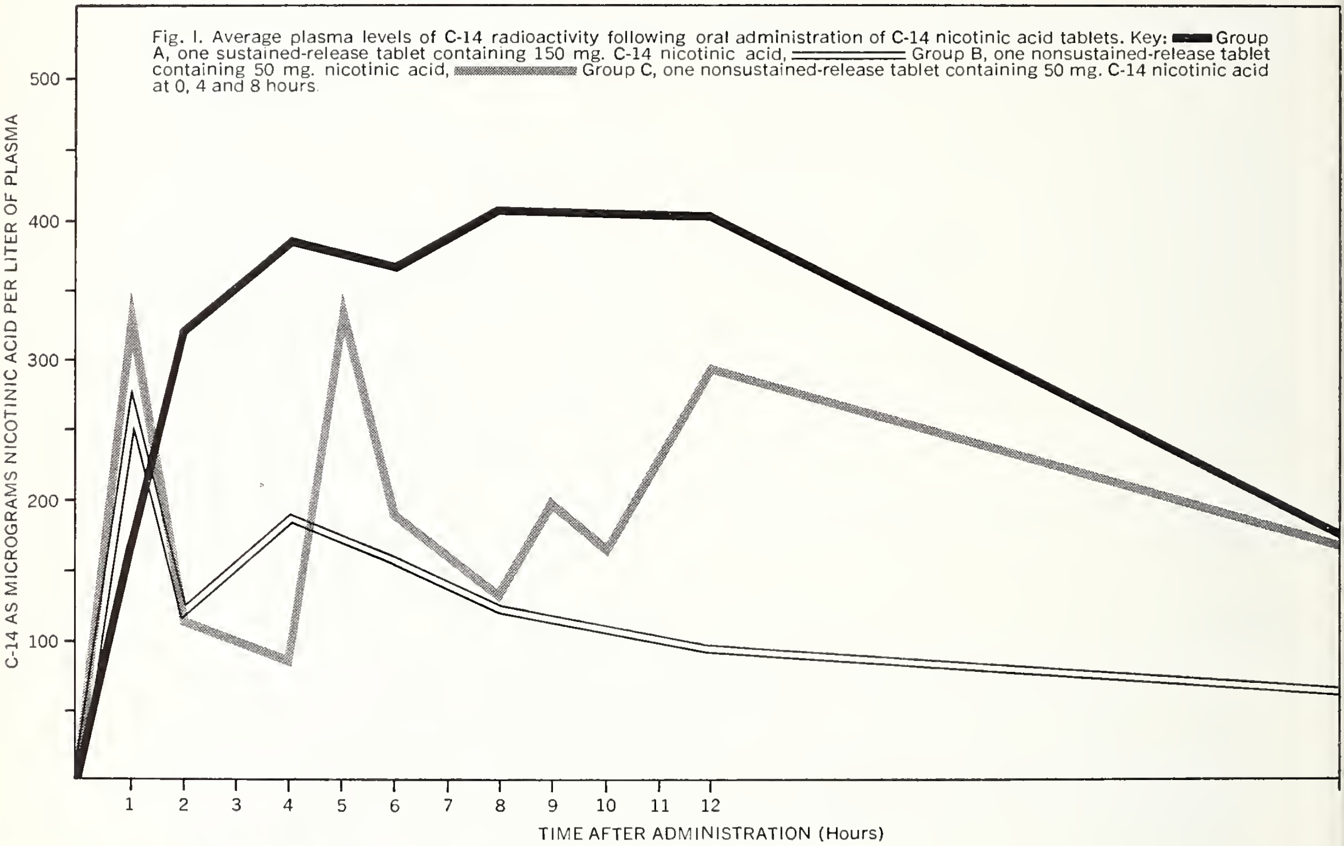

Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▒ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

(fewer absent doses by absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-mindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazol TT will provide the well-known peripheral vasodilatation needed in patients with deficient circulation and with a minimum amount (if any) of "flushing." Also, cerebrovascular circulation is complemented by pentylenetetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate signs of senile confusion. Patients become more alert

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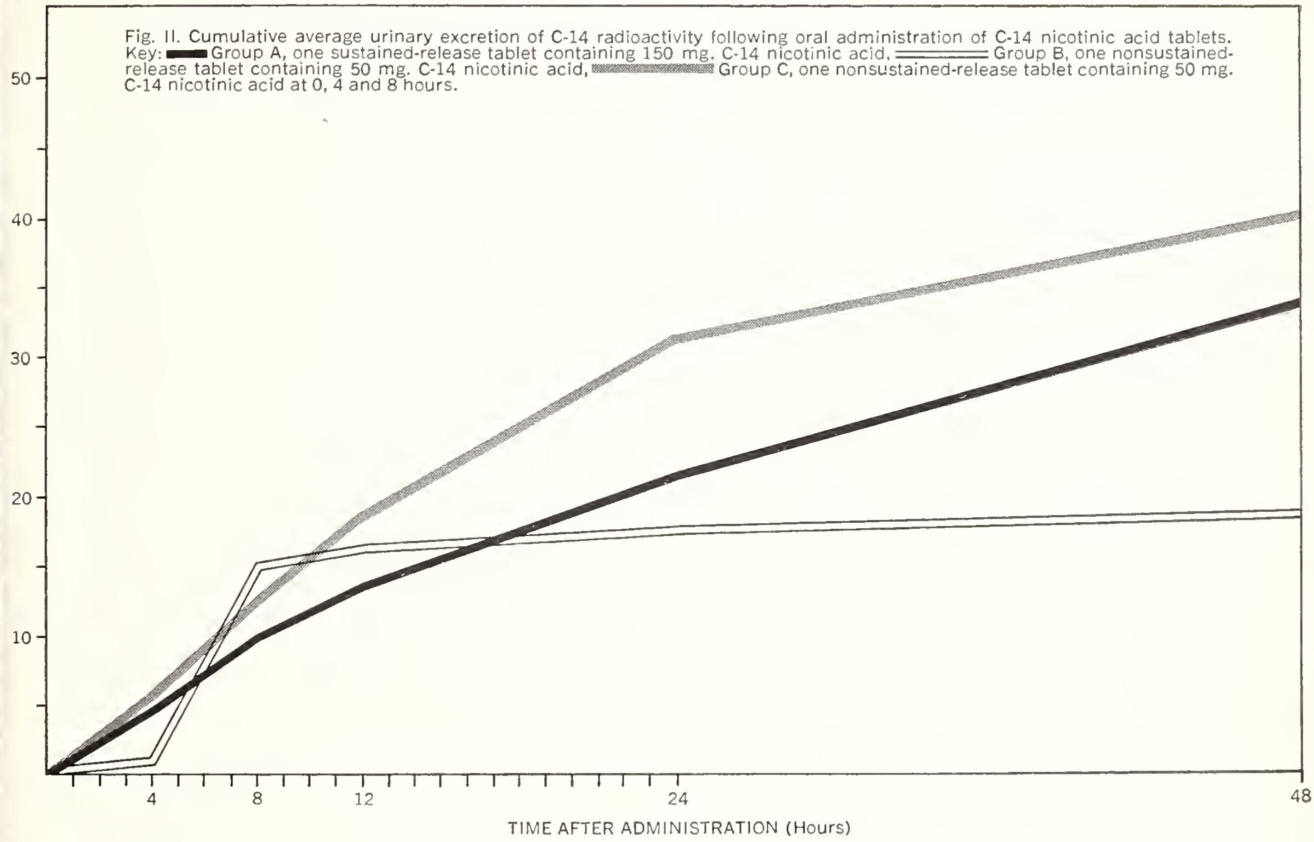

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

ss confused and moody. Personal care, memory, motional stability, social attention improve. Fatigue, pathy and irritability are reduced.

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ontraindications: There are no known contraindications.

recautions: Exercise caution when treating patients ith a low convulsive threshold.

Side Effects: Side effects are rarely encountered, however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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R. O. MUETHER, M.D., President
Missouri Medical Service

A Usual, Customary and Reasonable Fee Program for St. Louis Blue Shield

(The following remarks were made by Doctor Muether to the Board of Trustees of the Missouri Medical Service on April 25, 1968 as a result of actions taken by the House of Delegates at the MSMA 110th Annual Session, March 28-31.)

At the recent Missouri State Medical Association annual meeting in Kansas City, several actions were taken by the House of Delegates which relate to St. Louis Blue Shield. I thought the Trustees would want to consider these as soon as possible, so we have called this special meeting of the Board.

One of the important actions taken by the House was to call for the development by Blue Shield of a program based on the usual, customary and reasonable fee concept.

This request came through two actions of the House. One was the adoption of a recommendation of the MSMA Council that the House approve the concept of a usual, customary and reasonable fee program and approve the development of such a program by St. Louis Blue Shield. This recommendation, in turn, was the result of a similar recommendation of the MSMA Medical Economics Contract Committee under the leadership of Dr. Herbert Wiegand.

The minutes of the Council meeting of March 27, 1968, which refer to this, read as follows:

> "The Council reviewed the proposed new program, based on the usual, customary and reasonable fee concept which had been submitted by St. Louis Blue Shield to the Medical Economics Contract Committee at its meeting on March 3. It was the recommendation of the Committee that this program be approved by MSMA and developed by the St. Louis Blue Shield Plan.
>
> "On motion of Dr. Benoit, seconded by Dr. Stuart, the Council approved the program as proposed by the St. Louis Blue Shield Plan."

This was adopted by the MSMA House of Delegates on March 29, 1968.

In addition, the Kansas City delegation introduced a resolution calling for development of broad, comprehensive benefit programs by Blue Shield, and this was also approved by the House. This resolution is as follows:

> Whereas, through the American voluntary system, superior medical care is available to the American public;
>
> Whereas, a means must be developed by which this quality medical care is made universally available to all Americans; and
>
> Whereas, Blue Shield has the major responsibility of providing prepayment of medical care for the American public: Therefore, be it
>
> *Resolved*, That the Blue Shield plans of Missouri promptly develop, for the people of Missouri, comprehensive care programs for people under 65 years of age; and be it
>
> *Resolved* further, That these plans offer such a comprehensive program to subscribers by January 1, 1969.

The usual, customary and reasonable fee concept is, of course, not really new. St. Louis Blue Shield attempted, with MSMA House of Delegates approval, to introduce such a program in 1965. We were unsuccessful at that time, as you know, because of a lack of physician response.

There is some evidence that we may receive a greater response with a UCR program at this time. First, many more physicians are familiar with such programs, particularly through their experience with major medical programs, Medicare, Medicaid and various other plans. There is reason to believe that the UCR concept has gained acceptance among physicians and that an appreciable number would like to see such a program instituted and actively promoted by Blue Shield. The test of all of this will come, of course, when we ask physicians actually to participate in the program.

Briefly, the UCR program we propose for St. Louis Blue Shield would pay the physician's usual, customary and reasonable charges for medical services in the hospital, surgical services in or out of the hospital, intensive medical care, prolonged detention of the physician, medical care rendered concurrently with surgical services when there is need for supplemental skills, consultations, obstetrical services, including delivery, anesthesia, diagnostic X-ray and radiation therapy and pathology. (*A description of the provisions of the program is published following this article.*—Ed.)

In determining what constitutes the usual, customary and reasonable charge, three elements will be taken into consideration:

First—The usual fee that the particular physician charges most of his patients for the particular service.
Second—The range of fees charged for similar services by other physicians in the community with similar training and experience.
Third—Any unusual circumstances in the case.

In addition to the basic program, there will be certain modifications available in the form of riders to fit the special needs of a particular group. Among these, for example, would be home and office medical benefits, routine newborn pediatric care, extended psychiatric care and so on.

In any usual, customary and reasonable fee program the question of adjudication of possible disagreements about benefits arises. MSMA, as you know, is already setting up a plan whereby the various state specialty groups will furnish adjudication committees for the Medicaid program particularly, and we propose similarly to request those specialty organizations to appoint committees to adjudicate cases involving Blue Shield UCR benefits. In other words, the case would be considered by a panel from the physician's own specialty knowledgeable about the procedures and kind of care rendered as well as about the fees customarily involved.

I might mention here that such adjudication committees would not in any way take the place of the Blue Shield Medical Advisory Committee. The Medical Advisory Committee would continue to consider unusual cases and provide advice on the benefits to be provided for various procedures and services. It would only be in cases in which the physician questions a decision regarding whether his fee qualifies as usual and customary that we would call on the adjudication committee of the specialty group concerned.

As yet, we do not have a firm figure regarding the dues that would be necessary for the UCR program proposed. We think, however, that they will be in the neighborhood of \$4.00 to \$6.00 a month for the individual and \$10.00 to \$12.00 a month for the family to provide full payment for the services covered. This compares, for example, with \$2.05 per month for the individual and \$5.40 for the family for the Superior 350 program for groups of 25 or more members.

St. Louis Blue Shield UCR Program

The following is a brief outline of the program based on the "Usual, Customary and Reasonable" fee principle which the St. Louis Blue Shield Plan is developing for marketing in its service area. Development of the program was endorsed by the Missouri State Medical Association House of Delegates at its 1968 Annual Session.

The primary feature of the program is that it pays the usual, customary and reasonable charges of the physician who renders a covered service to an eligible member, so long as the charge falls within the range of charges made for similar services by physicians of comparable skills and qualifications in the same community.

The usual, customary and reasonable fee concept is the basis for determination of benefits under Part B of Medicare and the professional portion of the state Medicaid program as well as under various major medical programs, including those of the St. Louis Plan.

COVERAGE

The program will cover the full range of professional services provided by physicians and surgeons. Included are the following:

Medical Services to hospital bed-patients admitted for other than surgery or obstetrics.

Medical Services rendered by other than the attending physician in surgical or obstetrical cases when there is need for supplemental skills.

Intensive Medical Services to a hospital bed-patient when unusual and additional time and study over the above routine care is required.

Prolonged Attendance by the physician in caring for a hospital bed-patient in critical condition.

Consultations—medical, surgical or obstetrical—for a hospital in-patient.

Surgical Services, in or out of the hospital.

Obstetrical Services (other than antepartum and postpartum care, which will be available in an optional rider).

Endoscopic Examinations in or out of the hospital, except for proctoscopy out of the hospital.

Anesthesia Services in connection with covered surgical procedures.

Special Emergency Care in or out of the hospital for traumatic accidental injury.

Diagnostic X-ray Services rendered and billed by a physician in or out of the hospital.

Radiation Therapy Services rendered and billed by a physician in or out of the hospital, including provision for radiation sources.

Pathology Services rendered and billed by a physician in or out of the hospital, including electrocardiograms, electroencephalograms and basal metabolism rate determinations.

Services for conditions existing before the patient became a Blue Shield member will be covered after 12 consecutive months of membership.

The program will not cover those things generally excluded from Blue Shield programs such as services available to the member without cost or under municipal, state or federal law (including Medicare and Medicaid); professional services not personally rendered and billed for by a physician; services of a hospital resident, intern or physician in training; and examinations and tests in connection with routine physical, premarital or similar examinations.

BENEFITS

The benefit paid by Blue Shield under the usual, customary and reasonable fee program will simply be the fee charged by the participating physician for the services covered, so long as the amount falls within the range of charges made for similar services by physicians of comparable skills and qualifications in the same community.

Under the program, as with other Blue Shield plans, the benefit will be paid directly to the participating physician. He, in turn, agrees to accept the benefit as payment of his bill and makes no additional charge for these services to the patient.

PHYSICIAN PARTICIPATION

Physicians who desire to participate in the usual, customary and reasonable fee program will be asked to sign a special participation agreement, which will supplement the general agreement of participation in Blue Shield they may now have in effect.

In signing the usual, customary and reasonable fee program agreement, the physician agrees to accept the benefits of the program as his fee for covered services to eligible members, with the Plan agreeing to pay his usual fee within the range of charges customary in the local community. In the event the physician disagrees with the benefit paid in a particular case, provision is made for adjudication of the question by a committee designated by the medical specialty organization in his specialty. Cases referred to such a committee will be presented without identifying the physician, patient or hospital in order to preserve fairness and impartiality.

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Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

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with Methyclothiazide 5 mg.

Indications—Moderate to severe hypertension.

Contraindications—Pheochromocytoma, paranoid schizophrenia, hyperthyroidism and advanced renal failure. Not recommended in malignant hypertension, children under 12, pregnant patients.

Do not use with: centrally or peripherally acting sympathomimetic drugs; foods high in tyramine (e.g., aged and natural cheeses); parenteral reserpine or guanethidine; imipramine, amitriptyline, desipramine, nortriptyline or their analogues; other monoamine oxidase inhibitors; methyldopa or dopamine; separate Eutron and these agents by two weeks.

Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease; impending hepatic coma from thiazide-induced hypokalemia.

Warnings—Patients: 1. No other drugs (particularly "cold preparations" and antihistamines), cheese or alcohol without physician's consent. 2. Promptly report orthostatic symptoms, severe headache, other unusual symptoms. 3. Angina pectoris or coronary artery disease patients must not increase physical activity with improved anginal symptoms or well-being.

Physicians: 1. Use antihistamines, hypnotics, sedatives, tranquilizers and narcotics (meperidine contraindicated) cautiously in reduced doses. 2. Stop Eutron two or more weeks before elective surgery; in emergency surgery reduce premedication (narcotics, sedatives, analgesics, etc.) to 1/4 to 1/5; carefully adjust anesthetic dosage to patient response. 3. Use cautiously in advanced renal failure. 4. Pargyline may induce hypoglycemia. 5. Consider possible sensitivity reactions when a history of allergy or asthma is present. 6. If potassium is indicated, dietary supplement is recommended; enteric-coated potassium tablets may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation frequently requiring surgery; discontinue medication immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs; Eutron does not contain added potassium. 7. Possible systemic lupus erythematosus has been reported for thiazides.

Precautions—Pargyline: Use cautiously at reduced dosage: caffeine, alcohol, antihistamines, barbiturates, chloral hydrate, other hypnotics, sedatives, tranquilizers, narcotics. Periodically do urinalyses, blood counts, liver function tests, etc. Use with caution in liver disease. Watch for orthostatic hypotension, especially in impaired circulation (e.g., angina pectoris, coronary artery disease, cerebral arteriosclerosis); also, augmented hypotension in concomitant febrile illnesses. Reduce or discontinue if hypotension is severe. In impaired renal function watch for cumulative drug effects, elevated BUN and other evidence of progressive renal failure; withdraw drug if these persist. In surgery increased central depressant response (hypotension and increased sedative effect) can be controlled by (1) discontinuing at least two weeks prior; (2) in emergency surgery lowering dose of premedication; (3) when necessary, administering a vasopressor. Do not use in hyperactive and hyperexcitable patients. Pargyline may unmask severe psychotic symptoms where emotional problems pre-exist. Use cautiously in Parkinsonism, especially with antiparkinsonian agents. In prolonged therapy, examine for change in color perception, visual fields, fundi and visual acuity. Also, prolonged therapy has made certain patients refractory to nerve blocking effects of local anesthetics.

Methyclothiazide: Use cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery thiazide may reduce vasopressor response and increase tubocurarine response. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia). Give supplemental chloride if hypochloremic alkalosis occurs and supplemental potassium if hypokalemia occurs (especially in digitalized patients). Thiazides may decrease serum P.B.I. without signs of thyroid disturbance.

Adverse Reactions — Pargyline: Orthostatic hypotension and associated symptoms, mild constipation, fluid retention, edema, dry mouth, sweating, increased appetite, arthralgia, nausea, vomiting, headache, insomnia, difficult in micturition, nightmares, impotence, delayed ejaculation, rash, purpura, weight gain, hyperexcitability, increased neuromuscular activity and other extrapyramidal symptoms. Drug fever is extremely rare. Reduction in blood sugar and hypoglycemic effects are possible. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Methyclothiazide: Blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, blood sugar or serum uric acid (gout may be induced); anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice and pancreatitis. Cutaneous vasculitis in elderly patients has been reported with other thiazides.

If side effects are severe or persist, reduce dosage or withdraw drug. 804438R

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The Council Reports:

The MSMA Council met at the Hotel Muehlebach in Kansas City on March 31, 1968, with President David N. Kerr, M.D., St. Louis, presiding. Those attending the meeting were Drs. Kerr; Doyle C. McCraw, Bolivar; John I. Matthews, Jefferson City; Max S. Franklin, St. Louis; Paul F. Max, St. Louis; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Howard J. McAlhany, Springfield; E. A. Stricker, St. James; W. D. English, Cardwell; Hector W. Benoit, Jr., Kansas City; Stanley Peterson, Springfield; J. Loren Washburn, Versailles; Arthur W. Neilson, St. Louis; Messrs. John W. Noble, Kennett; Ray McIntyre and Don Brummall, Jefferson City.

Doctor McCraw introduced Dr. Howard J. McAlhany, Springfield, the new Councilor from the 8th District who was elected to fill the unexpired term of Doctor McCraw, President-Elect of MSMA. The Council extended congratulations to Drs. Fisher, Gunn, Cope, Miller and Stricker who were reelected Councilors from the 1st, 3rd, 5th, 7th and 9th Districts, respectively.

At the election of officers, Dr. Joseph L. Fisher was nominated and unanimously elected Chairman of the Council and, thereby, became the presiding officer. Dr. Gerald L. Miller was nominated as Vice-Chairman of the Council, Dr. Max S. Franklin was nominated as Treasurer and Dr. John I. Matthews was nominated as Secretary. On motion, each was unanimously elected.

Doctor Cope called attention to the fact that Dr. Byron M. Stuart was absent for the first time in 12 years and commented upon the fact that he would be missed.

Doctor Miller moved that the Council extend congratulations and commendation to Doctor Benoit for a great year of leadership as President of the MSMA. Personal appreciation also was extended to Doctor Benoit.

Doctor Fisher opened the business meeting by stating that there were two items to be discussed: (a) the report of the MSMA Ad Hoc Committee made to the Council on the previous Saturday and (b) the letter received from the Director of the Division of Welfare regarding regulations of injectable medication.

There was a discussion of the Ad Hoc Committee's report made at the Council meeting on Saturday, March 30 and the Council's supplementary report to the House of Delegates on Sunday morning, March 31, which was approved by the House of Delegates. Doctor Neilson suggested that the report be referred to the AMA Delegates and the Chairman of the Ad Hoc Committee so that they could work out a definite plan of presentation and advise the Council of their plan at the next session. He asked that the Council give the AMA Delegates instructions to proceed.

After further discussion, on motion of Doctor Benoit, duly seconded, it was agreed that the Chairman of the AMA Delegation from Missouri, in conjunction with the Chairman of the MSMA Ad Hoc Committee, call a meeting of that committee and the AMA Delegates and Alternate Delegates within two weeks to formulate a distinct and concrete proposal in accordance with the Council's supplementary report and approval by the House of Delegates. The proposal should then be presented to the AMA Committee on Health Care Financing of the Board of Trustees for their consideration with the request that the Board of Trustees of the AMA present the proposal to the AMA House of Delegates in June.

The Council next discussed the letter of March 29, 1968 received by physicians throughout the state from H. O. Loyd, M.D., the Medical Director of the Division of Welfare, regarding reduction in payment to doctors for injectable medication. On motion of Doctor Benoit, duly seconded, it was agreed that the Executive Committee of the Council; Dr. Herbert Wiegand, Chairman of the Medical Economics Committee; and Dr. Stanley Peterson arrange to meet with the Medical Director and the Director of the Division of Welfare in an effort to resolve this problem and, then, assist the Director in formulating a new letter to the physicians in Missouri which would rescind the original letter of March 29.

Doctor Franklin, Treasurer, reported that certain bonds in the MSMA Investment Account would mature soon and requested the Council to appoint one or two additional members to help decide how to invest these monies and to instruct our Investment Agency. On Motion of Doctor Wray, duly seconded and approved, the following committee was appointed to assist the Treasurer and be empowered to act on the investments: Drs. Doyle C. McCraw, Bolivar; Gerald L. Miller, Kansas City; and Robert A. Mayer, Clayton.

The portion of the Medical Economics Contract Committee report made at the Council meeting held on March 3 and dealing with overutilization of physicians' services and payment for physicians' services for nursing home patients had been tabled at the Council meeting on March 27. Doctor Gunn moved that the portion of this report which had been tabled now be taken off the table. The motion was seconded and approved. Doctor Benoit then moved that this particular portion of the report be referred to the Sub-Committee of the Medical Economics Contract Committee, which was appointed to study physicians' services for nursing homes, for their study and further report to the Council. The motion was seconded and carried. Members of the Nursing Home Sub-Committee appointed by the Chairman of the Medical Economics Contract Committee are Drs. Rae Froelich, Lebanon; James N. Haddock, St. Louis; and Charles L. Miller, Jr., Kirkwood.

The Council decided upon May 11 and 12, 1968 as their next meeting dates, location for this meeting to be determined at a later date.

This Council report covers the highlights of this March meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

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CHARLES B. SHUMAN, ***President***
American Farm Bureau Federation

Management of People at the Marketplace

Special Feature

In this speech which he delivered at the 1967 AMA Communications Institute, Mr. Shuman discusses the problems his organization has had and is facing as a result of government farm programs in agriculture, the lessons that have been learned and the new attitude in dealing with the problems. He cites a similar example currently in the field of medicine and health care, offers provocative suggestions and invites the interest and cooperation of organized medicine in efforts to arouse the American people from "their complacency."—The Editors.

Doctor Blasingame, Doctor Rouse, distinguished guests, ladies and gentlemen:

After that rather glowing introduction, I feel inadequate. I told some of the folks at the table that I feel like getting up and saying, "Is there a doctor in the house?" and, then, "Let's retire and find out what's working on me." I happen to know that it wouldn't do any good, because I have the complaint that none of you can cure, the common cold. I also know what the prescription would be, and I can't go to bed for bed rest. So, if you'll bear with me a few minutes, perhaps I can discharge my responsibility. It's more than that. I wanted this opportunity because for 35 years, we in agriculture have been going through some experiences in trying to cope with the attempts to socialize agriculture that you could profit by in your similar struggle. Perhaps, you could save 20 years of time, and that might be of interest.

The nature of this struggle in agriculture and in the field of medicine or health care is the same. It's the struggle between those who believe in the maximum freedom for individuals to choose how they will order their lives and their businesses on one hand and those who believe in considerable control by government of individuals and their affairs. You can put it another way and say that it's the struggle between socialism and capitalism.

Some value judgment is loaded into those words, so some people don't think it's smart to talk about them. I don't agree. Winston Churchill, I think it was, said that capitalism is the unequal distribution of blessings while socialism is the equal distribution of poverty. And, I think, they named the poverty program right. The attempt of this scheme is to equally distribute poverty. That's going to be the result.

You can describe this struggle in another way, which suits us a little better, and that is as the struggle between those who believe that human needs will be better fulfilled, more adequately and more rapidly, through the mechanism of the competitive marketplace as contrasted with those who believe that political decisions are better for more of the people at any given time. Someone, I think Leonard Reed, has said that a conservative is someone who believes in willing exchange: but you cannot be for the kind of schemes that we have in agriculture, medicine and poverty and believe in willing exchange.

I said that we have had some 35 or more years of experience in this struggle. It goes back to the Republican administration of Herbert Hoover, when, in answer to a very legitimate complaint which farmers had, our government instituted the first intervention program in agriculture. It was an attempt to raise farm prices by buying up farm supplies and holding them off the market. It failed rather quickly, because they didn't provide enough money. However, it was supplanted or replaced by another socialistic scheme, and that's been the history of the failure of government farm programs in agriculture.

At first, we thought that when this program fails, we'll go back to the marketplace. Never. The socialists are too smart for that. They know that the only way that the failures can be covered up is by coming along with another socialistic scheme. Each one goes a little farther and a little farther. One lesson we have learned—don't wait for these schemes to fall of their own weight. Don't wait for failure to take them down. Medicare will never go as a result of failure. It will continue to grow and grow if you wait for it to fail.

We have learned some other things. We have learned the rationale, the purpose, the reason why these folks continue to advocate more and more government control and management of individuals.

I remember reading some of the testimony on the Medicare Bill of a few years ago. The witness, a proponent, was asked why they were insisting upon including everyone over 65 under Medicare. Why wouldn't they accept the idea that those who had adequate income should pay their own medical costs? He was badgered by the member of the Committee quite a bit, and he finally told the truth. He said the reason they wanted to include all under Medicare, regardless of their ability to pay their medical bills, was because they, meaning all over 65, would not spend their money wisely. **This is the rationale.** This is the heart of the whole thing. They do not believe—these folks who believe in socialized medicine, socialized agriculture, socialized power—these folks do not believe that 200 million people going into the marketplace with their earnings are intelligent or smart enough to know how to spend their money. **That's what it's all about—management of people.**

I said that we have had these 38 years' experience since 1929. During that period of time, we have repeatedly demonstrated the failure of these schemes which were intended to raise farm net income. At no time in this period, except during war when the programs were ineffective, has farm net income even approached an equitable relationship with the rest of the economy. At the present time, after 38 years of failure, with an administration that came in some seven years ago and has continuously had the same Secretary of Agriculture and is an administration dedicated to raising farm income by using these programs more effectively by using more controls and extending them in every way, the parity ratio, 75% parity, is almost as low as in 1934. It's a record of disaster. But, do you think for one moment that any of the advocates of a socialized agriculture are suggesting that we return to the system that did work: Not on your life. Don't wait for failure to pull it down.

So, we ask ourselves, why? Why this determination to socialize, to move from one scheme to another? One reason is the belief on the part of many politicians that most of the voters are gullible and susceptible to the appeal of getting something for nothing. These schemes have the advantage from that standpoint of passing out a lot of money. And frankly, I would have to agree that, so far, it seems to have worked.

A second reason why you can't get rid of these schemes easily is that many people become involved in their administration. We have approximately 80,000 payrollers on the Department of Agriculture staff administering the government programs. If these are discontinued, 80,000 people lose their jobs. They have friends and relatives who have influence with members of Congress.

A third reason why you can't get rid of these devices easily is because of vested interests who come to like the program. The huge international grain corporations in this country have rather liked to have the Commodity Credit Corporation store up huge quantities of grain which are constantly available whenever they want them. It's a no-risk, no-worry way of doing business. The textile mills have been one of the strongest factors in keeping government farm programs in effect. They provide campaign contributions to members of Congress, who then are willing to do their bidding and vote for the continuation of these schemes.

A fourth reason why we have had difficulty in getting rid of government farm programs related to the old adage that before you would mount a tiger, you should at least have made plans for dismounting. Once you get under one of these traps with its subsidies and controls, it's difficult to get out without somebody getting hurt. Imagine, if you can, a wheat farmer in Western Kansas who produces nothing but wheat and who, in 30 years of producing wheat, has never sold a single crop to the consumer. He's afraid—afraid of the unknown, afraid to go to the market place. Fear dominates in this case.

A fifth reason why it's difficult to get out of the trap is public apathy. I was very much distressed, interested and alarmed by the stories we heard this morning of Denver and Atlanta and public apathy. They could care less, as long as it doesn't affect them.

Now, with this dreary recital, let me tell you the situation we're in now, after this long struggle.

We're commencing to win. I see signs of it everywhere. Oh, we're not entirely on the winning road, yet. We're faced with a serious setback now with this huge crop of feed grain, wheat and soybeans that has been produced in large part because the government interventionists wanted a big crop. They were afraid they were going to run out of supplies with which to control us, so they wanted a surplus because they cannot manage our prices without a surplus to dump back on the market. They did everything they could in the way of encouraging increased production of wheat, feed grains and soybeans, and we've got another big surplus running out of our ears. I say we're making gains and we're beginning to win despite the fact that many farmers have been in this trap so long that they're afraid and they don't know how to get out.

We have farmers—thousands, hundreds of thousands of farmers—who have been under the domination of government control and direction so long that they are not only afraid, but they have become accustomed to being told what to do. But I say we're winning.

When the Secretary of Agriculture, after seven years of devotion to control and socialization of agriculture, says, as he did recently in trying to justify the continuation of the scheme, that the market prices are working in agriculture better than they have for ten years, we're commencing to win. He wouldn't have said this if he didn't know that most of the farmers today want the market system in agriculture. So, he's trying to sell his socialistic schemes on the idea that they were letting the market system operate. There are other straws in the wind. Straw polls indicate that farmers would gladly get rid of these programs. The last government control program, the act of 1965, would have been defeated if it were not for the votes of city Congressmen. **This shows you the place where our problem is. It's with the apathy of the consumer and the taxpayer in other occupations.**

Bill O'Malley

Well, coming back to your situation, are you willing to assume with me that you want to keep medicine a private service profession? Now, if you're not willing to make this assumption that you want to preserve it as a private service profession, I can stop here because the rest is easy. The government will run it if you do not want to make that decision. So, you have to start making some decisions with me. The first decision to make is, "Do you want to continue medicine and health care as a private service profession?" I didn't suggest any compromise or any in-between spot. I said, "Continue it as a private service profession." I'm implying 100% or almost 100%. Because if you are ready to make this decision, I think you will at least make a few mental notes of some of the lessons we have learned.

We have wasted a lot of time. We wasted 20 years on the false assumption that once we were defeated in the Congress and were committed to a government-managed agriculture, the best thing we could do with our time and resources was to help make these schemes work. I'm telling you right now, after the experience that we've had, this is a fruitless exercise, an exercise in frustration. The reports this morning demonstrate adequately that it will be the same way in your profession.

It took us 15 to 20 years to decide that we wanted to keep farming a competitive market-type profession or occupation. Once we made this decision, we began to sort out some of the essentials. Let me just tick them off—one, two, three, four—because you can fill in the details and you can make the application.

The first essential in any operation that involves the public is to be right. My friend, Philip Lesley, I am glad to see, is consulting with you folks because he has a tremendous know-how in this field. I am sure that one of the things he has already told you is that it doesn't do any good to spend millions of dollars on public relations unless you're right. The first principle of public relations and communication is to be sure that you are right. That requires research. You need to have staff assigned to the business of keeping track of what's happening in all of these schemes as they come down the road. The first requirement is to study the effects of these schemes and find out what actually is taking place.

(Continued on page 434)

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It is easier to look back now and see what we did than it was to plan, because we were flying by the seat of our pants most of the time. The second part of our operation was education of our own folks, education and information of our own membership. We haven't achieved 100%, yet. Three fourths of our members would gladly get rid of the government programs in agriculture. They'd argue a little regarding how or how rapidly, but three fourths want to get rid of the programs. This does not come easily, because we started with about one third in that situation. It takes patience. It takes the development of a genuine policy development program whereby the people are involved in making these decisions and, thus, get participation at the local level.

Third, after you have made the decision that you want to remain a free enterprise type of business or profession, then there will come a time when you can and should plan ahead in regard to the strategy. In the beginning, you'll be accused of being negative. We were charged with being negative, not positive: we were always against everything. So, planning ahead helps you get a positive stand. Our Secretary-Treasurer, Roger Fleming, says that we ought to play the game and compete in the struggle so that we will get the grass stains on our chest instead of on our back. That takes planning in advance regarding what your moves are going to be. Finally, you come to the place where, through planning, the other side is on the defensive.

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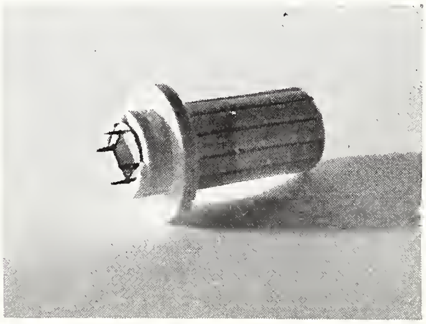

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Fourth, I only know one word—attack, attack, attack. You can't gain anything by compromise. Socialism is a certain failure. You don't need to worry when you're attacking failure. Oh, they'll say that your program is negative. But, how in the world are you going to have a positive program if you don't point out the positive failure of socialism?

A fifth point in our program is non-cooperation, peaceful non-cooperation. For 20 years, we had representatives of our organization in county, state and national conferences to try to patch up these programs. This was a fruitless exercise. All that we did was to get involved, and that's what the other side wanted. We were helping to legitimize the very programs we were against. Not only that, when they got into trouble, we were blamed for the trouble, despite the fact that we were against the whole scheme. I'll wager that in every community where the Medical Association is involved in helping socialized medicine work, when the failure shows up, they will point the finger at you and say it was your guidance that caused the trouble. They'll do it every time. And so, we attack, attack, attack. And we never compromise.

The only place (and I learned this from our Southern friends) to compromise in a struggle in which you're right and which you want to win is after the other guy knocks you down and is about to stomp your brains out. Then you stick your hand up and say, "Let's compromise." The trouble most of the time is that too many of our folks rush in to compromise at the first reversal. That's not the way to win this struggle. That's not the way the other side plays. You can't win if you compromise, because the opposition takes the compromise area as the place from which to start for the next move forward into socialism. It took us a long time to learn that.

Now, I come to the final point which I think we learned and that is that **you can't fight something with nothing.** The reason we were pulled into socialism in agriculture and the reason you were pulled into socialism in medicine is that we had not developed alternative approaches to government intervention for the solution of several legitimate problems. There was a legitimate medical care problem in many communities. Farmers had legitimate price problems, as well as the problem of wide fluctuations in farm markets. We sat around and wasted years and years of valuable time which should have been used in seeking sound solutions to these problems. We should not blame the other side too much because they moved into a vacuum. But, likewise, we ought to recognize why we got into the government intervention trap and start taking steps to get out with a sound, constructive, positive approach—by finding alternatives for the solution of these legitimate problems. Farm Bureau is working now to develop marketing strength through our own resources so that we can negotiate for better prices for our products. If we had started 30 years ago and had spent a comparable amount of time and money and manpower, we would have had this problem well on the way to solution. But, we didn't. We first went through a period of cooperating with government planners trying to patch up their programs. Then we went through a period of just fighting. Finally, in the last six to seven years, we've decided we'll never replace government programs with nothing. We must have a substitute, a constructive substitute.

Now, what are the reasons for standing firm? What are the reasons for attacking, for never compromising, for non-cooperation? The principal reason is, we want to win. In the first place, with this kind of program, you can build courage and hope in your membership. Second, by raising issues as they come along and pointing out the flaws and failures of these programs, the leadership helps the members of the organization and the general public to make decisions. Most people will not make decisions or, at least, those that are hard to make unless confronted by an issue. More farmers have decided which way they want to go since we've been fighting back—more than ever decided during the period of time when we were going along. Third, sharp issues get attention. Unless an issue is created, the public will continue to be complacent. Fourth, and this was most surprising to us, we have done much better organization-wise since we started to attack. It builds organizational morale. The members like it when they are involved in a battle. We had an old state president who was quite a fighter, and he said, "God deliver us from the time when there are no issues in the organization. If that time ever comes, I'll go out and make one." We have never had to want for issues. But, don't dodge the issues. Membership morale is better when the organization meets issues squarely. Even if some of the members disagree with the position taken, they still admire the fact that the issue has been faced.

The fifth reason for standing firm is that all things related to human beings travel in cycles. The cycle of public opinion will turn soon or later. If you have already compromised and accommodated to the enemy, however, it won't make any difference whether the cycle turns or not. You're not in the position to move with it. The cycle that's been going pro-socialist in the U. S. for the last 20 to 30 years is going to turn, I don't think that turn is very far off. Where will the medical profession be if it has compromised with those who would socialize and nationalize medicine when this cycle turns?

Sixth, I believe the American way of life is worth fighting for. If it is, you can't win by compromise. You can't win by sitting it out. You can't win by helping make these schemes work.

Let me assure this leadership group that if your organization takes this route of resistance, coupled with constructive counter action, which seems rather drastic and a little bit dangerous, you're going to win because, first, socialism is bound to fail. The failure may not be recognized unless you folks help cause it to be recognized. Secondly, when the opposition has the initiative, organizational energies are squandered in fruitless efforts to stop new schemes. Organizational resources are important and should not be used for constructive purposes. Sound programs will eventually prevail. A third point is that involvement implies acceptance. If the organization challenges the opposition, the members know that there are two places to stand—to the right or to the left. If the organization becomes involved, the members become convinced that there is only one place to stand. What a glorious thought it is that our organizations may provide a rallying point for that remnant, whether small or large, that believes in the God-given right of individuals to be free and make their own decisions. If the leaders of your organization and our organization capitulate, cooperate or sit it out, the members tend to capitulate, too, and to give up. Naturally and rightly, they look for leadership from their elected officers.

Why are we winning? We have demonstrated the record of failure after failure. We have provided consistent resistance. And, we are developing alternatives. I don't know how soon we will win completely, but it might be within ten years. Perhaps it will take 20 years. I believe with your know-how and the rightness of your cause that, if you join this battle as you have quite effectively in most cases, we'll all win more rapidly than we would if either organization sits out the battle.

Socialism fails because, first, the decisions that are made are political, not market decisions. A political decision is different from a market decision. A market decision weighs human needs. The political decision weighs the needs of the politician for votes, and they'll come out differently.

The second reason socialism fails is because the folks who make these decisions—the few under a political deciding system—are more apt to make errors. A few administrators in Washington, in Social Security or OEO or USDA are more apt to make errors than 200 million people going into the market place with their money to make the decisions.

A third reason socialism fails is because the penalty for these mistakes falls on the innocent, rather than the guilty. When the Secretary of Agriculture raised the support price of cotton in 1961, it was a tragic mistake. He even admitted the other day that it was probably a mistake. It has lost us almost one-third of our cotton market. But, who paid the penalty for that mistake? It wasn't the Secretary of Agriculture. He's still Secretary. It was 200,000 cotton farmers who paid the penalty in reduced markets and reduced prices and reduced incomes.

The fourth reason socialism fails is because it's extremely costly. It takes a lot of folks to watch a million-plus farmers to see that they don't disobey some of the rules—80,000 of them. They are scattered all over this country in 2,700 agricultural counties. There are enough of them to provide one full-time employee for every 17 full-time farmers in the United States. I tell our folks that if they haven't had a visit from one of them in the last 17 days, they had better watch. He's liable to be there tomorrow, because that's the proportion of time that they could allot to them. Socialism is costly.

Fifth, it is wasteful. The political system makes decisions to get votes, and these are not economic or market decisions. They are not directed towards fulfillment of human needs. The decision to continue the cotton production in the Southeast has been a tragic waste. It now requires 14 million bales of production on the farms of the South and Southwest to get 8 million bales that are fit to use. The other six go to the Commodity Credit Corporation, and they give it away some place. They've never found a way to destroy it yet. The darn stuff—you can't dump it in the ocean, because it floats. If they burn it, some newspaper photographer takes a picture of it. And so, it piles up and piles up in government warehouses. Finally, somebody says, "get rid of the stuff," and we give it to somebody to get it out of our hair. It's costly. It's wasteful.

Socialism interferes with change. Now, change isn't always comfortable, but change is necessary if we are going to have progress. I guess we're all devoted to progress, even the socialists. However, socialism works against progress by interfering with change. Then, it reduces the incentive to excel. This means high-cost production, high-cost medical service. I didn't figure it out, but the cost of that Denver Medical Health Center must be tremendous. It must be ten to 20 times what the cost through individual service would be.

Finally, socialism is morally degrading. It goes contrary to the Christian and ethical lessons that we have learned through the centuries. It teaches people that all they need to do to receive a living is to exist. They don't have to produce, merely exist. If this doesn't pull down moral standards and degrade people, I don't know what it does.

In conclusion, I would like to solicit your help and support, not necessarily in getting involved in the agricultural battle but by putting up a real fight in your sector. That's what would help us the most. If this battle gets hot enough, the American people will start to lose their complacency. They will be concerned. But, if we continue to compromise and temporize, then apathy will defeat us.

I am sure we are going to win this battle. God bless you, and I hope you are with us.

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medical melange

Notes of interest from Here .... and There

Dr. Lawrence F. Steffen, Kansas City, was elected president of the Missouri Heart Association at its annual meeting in Jefferson City. Other officers are Drs. **Glenn O. Turner,** Springfield, president-elect; **Brent M. Parker,** St. Louis, vice-president; **William H. Ames,** St. Joseph, secretary; and **Mr. Chester G. Starr,** Columbia, treasurer.

State Hospital No. 4 at Farmington was the scene of a celebration honoring **Dr. Emmett F. Hoctor** who had been superintendent of the hospital for 38 years. The occasion was the release of a new book, "Let Me Not Be Mad, Sweet Heaven," written by **John Stewart** of St. Louis and his father, **Rev. William Stewart** of Farmington. In the Foreword to the new book which portrays some of the more interesting and unusual experiences during Doctor Hoctor's career, **Dr. George A. Ulett,** Director of the Missouri Division of Mental Diseases, wrote, "Whenever my own day-to-day burdens seem frustrating and overwhelming, I can gain strength from thoughts of this kindly man—the grestest human healer I have ever known."

Dr. R. Stacy Long, Kansas City, was awarded the Family Physician of the Year honor by the Kansas City Academy of General Practice. The award is for outstanding service to the field of medicine and contributions to family practice.

The board of directors of the Community Medical Center in Bowling Green held an open house to welcome **Dr. Juan Cancelada** and his family to that community. Dr. Cancelada will maintain his practice in Silex, also.—**Dr. James C. Wallwork** is now practicing medicine at the Community Medical Center in Illmo. He replaces **Dr. J. M. Jung** who was called into the military service on Aug. 30, 1967.

In a feature story in the *Jefferson City News-Tribune* recently, **Dr. Hugh W. Maxey** told of his unusual experiences during his 15 years as resident physician at the Missouri State Penitentiary Hospital. A practicing physician for 50 years, Doctor Maxey practiced medicine in the Capital City for 33 years.

Drs. **J. A. Murney** and **R. W. Moellenhoff** of Washington and **Dr. J. G. Shea** of Gerald appeared on the program for the Cardiac Nursing Conference for Registered Nurses and Licensed Practical Nurses which was sponsored by the St. Francis Hospital in Washington.—**Dr. Norman A. Ginsberg,** Kansas City, spoke at the 4th Annual scientific meeting of the American Academy of Facial Plastic and Reconstructive Surgery in Hollywood Beach, Fla.

The University of Missouri Medical Alumni Association, meeting in conjunction with the MSMA 110th Annual Session in Kansas City, honored five Missouri physicians who have made outstanding contributions to the School of Medicine. Named as honorary "associate members," graduates of medical schools other than the University of Missouri, were **Dr. George A. Ulett,** Jefferson City, director of the Division of Mental Diseases for Missouri; **Dr. Hector W. Benoit,** Jr., Kansas City Immediate Past-President of the MSMA; **Dr. A. Lloyd Stockwell,** Kansas City; **Dr. Durward G. Hall,** Springfield, Representative to the U. S. Congress; and **Dr. Arthur W. Neilson,** St. Louis.

WASHINGTON

The federal government has established a new agency and appointed two new advisory committees in the health care field.

The new agency is the National Center for Health Services Research and Development. The committees are:

1. The Medical Assistance Advisory Council which will advise the secretary of Health, Education and Welfare on matters relating to federal-state medical aid programs.

2. A panel to give the social security commissioner advice on experiments to find new methods of reimbursing hospitals and physicians for health care under medicare and other federal health programs.

Health, Education and Welfare spokesmen said the new center will work with universities, industry, hospitals, practitioners and research institutions to seek new ways of delivering health care.

"The ultimate goal of the center is to aid practitioners and institutions involved in health services to improve the distribution and quality of services and to make the best possible use of manpower, funds and facilities," said Dr. Philip R. Lee, assistant HEW secretary for Health and Scientific Affairs.

The immediate goals of the center were listed as:

—More efficient utilization of health personnel, including the development of new types of health workers at the professional, technical and auxiliary levels.

—Increased productivity and better management of all elements of the medical care system to improve quality and moderate rapidly rising costs.

—Technological innovation, for immediate application, to achieve cost reduction and quality improvement.

—To survey and analyze health systems, including costs and financing and to test new concepts and systems of health care delivery.

—To recruit, train and develop personnel for health services research, including the establishment of regional, non-Federal centers for health services research and training.

—Collection and correlation of existing information on health services delivery for planning and organization design.

—Initiation of systems' studies of institutional design, construction, equipment and maintenance and support construction of cost-saving innovations.

Director of the center, which is under the newly-created Health Services and Mental Health Administration, is Dr. Paul J. Sanazaro, who had directed education and medical care research for the Association of American Medical Colleges since 1962.

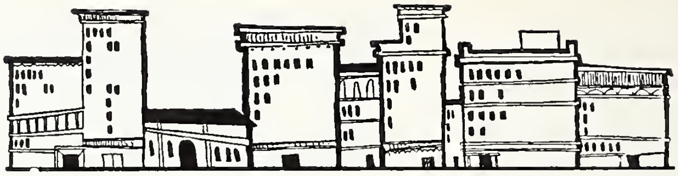
HEW said the advisory council would be consulted on program development and practical operational problems involved in Medicaid (Title XIX of Social Security). Such programs are in operation in 38 states, Guam, Puerto Rico and the Virgin Islands. Rashi Fein, Ph.D., a chief economist at the Brookings Institution, was named chairman of the 21-member council which includes six physicians:

John B. Farley, Pueblo, Colo.; Thomas B. Georges, Pennsylvania health and welfare official; Amos N. Johnson, Garland, N. C.; Maynard Shapiro, Chicago, president-elect of the American Academy of General Practice; George W. Slagle, Battle Creek, Mich., chairman of the American Medical Association's Council on Medical Service, and Donald Smith, public health professor at the University of Michigan.

The Social Security Administration said the reimbursement panel would review proposals for experiments submitted by institutions and individuals in the health care and health insurance fields. After such reviews, it will be asked to recommend the ones it believes to have the greatest potential.

Nathan J. Stark, a Kansas City businessman, is chairman of the 17-member group. Four members are physicians: Solomon J. Axelrod, University of Michigan; Thomas W. Georges, Jr., Pennsylvania welfare official; Donald R. Hayes, Springfield, Mass. and Pierre J. Salmon, San Mateo, Calif., county public health and welfare official.

From the Medical Schools



MISSOURI UNIVERSITY

Dr. William D. Mayer, dean of the School of Medicine, University of Missouri, is among 20 newly appointed deans of medical schools in the U. S. and Canada who participated in a seminar sponsored by the Association of American Medical Colleges on Wilmington Island, Ga. on April 28-May 1.

At age 39, Dr. Mayer is the youngest dean of a medical school in the nation. He assumed these administrative duties last July 1 when Dr. Vernon E. Wilson, former dean and director of the University Medical Center, became consultant to the president of the University on health affairs.

Dr. Mayer has been associated with the School of Medicine in Columbia since 1961 when he was appointed assistant dean and assistant professor of pathology, which was four years after he received his M.D. degree from the University of Rochester. He became associate dean in 1964.

The AAMC's deans' meeting in Georgia is the first of a series of seminars made possible by a grant from the John and Mary R. Markle Foundation, a foundation which also gives support to outstanding scholars in academic medicine. Dr. Mayer was named a Markle Scholar in 1962, an honor annually accorded 25 young physicians in the United States and Canada.

Dr. Henry M. Parrish, professor in the department of community health and medical practice, has been appointed to a seven-state regional health advisory committee by Dr. William H. Stewart, Surgeon General, U. S. Public Health Service.

Purpose of the committee is to probe existing and projected data and conditions and then synthesize recommendations to assist the Public Health Service to meet the needs of state and local areas.

Dr. Parrish is director of graduate studies in public health at the School of Medicine and has been instrumental in developing the curriculum of the department.

ST. LOUIS UNIVERSITY

Dr. Raymond O. Muether, associate professor of internal medicine at the St. Louis University School of Medicine, was the recipient of the third Ralph A. Kinsella, Sr. award given annually to a distinguished alumnus, professor and researcher by the Lambda Chapter of Phi Beta Pi Medical fraternity.

(Left to right) **Dr. Raymond O. Muether, associate professor of internal medicine, recipient of 1968 Ralph A. Kinsella, Sr. award; Dr. Peter G. Danis, clinical professor of pediatrics, who received the 1967 award; and Dr. William A. Knight, Jr., associate professor of internal medicine, who made the presentation.**

Dr. William A. Knight, Jr., associate professor of internal medicine, made the honor presentation at the fraternity's annual dinner dance at which Dr. V. D. Willman, professor of surgery, was the keynote speaker. Dr. Muether's name also will be added to the Ralph A. Kinsella plaque which will be placed in the School of Medicine's new research wing addition nearing completion at 1402 S. Grand Blvd.

Paul R. Donnelly has been appointed chairman of the department of hospital administration of the St. Louis University Graduate School.

Mr. Donnelly joined the St. Louis University faculty in 1958 and has served as associate director of the department since 1963. He will succeed Rev. John J. Flanagan, S.J., who has been named Consultant to the Catholic Hospital Association's Board of Trustees and the member institutions.

In addition to his new University appointment, Mr. Donnelly will continue to serve as director of the department of hospital administration at the Catholic Hospital Association.

A three year award of $59,304 for the support of research in the department of microbiology at the St. Louis University School of Medicine has been granted to Dr. Joel S. Trupin, assistant professor of microbiology, by the United States Public Health Service.

Dr. Trupin's research, entitled "Physiological Roles of Transfer Ribonucleic Acids," is aimed at providing a better understanding of the role of amino acids in regulating the rate of formation of proteins and nucleic acids in cells.

Dr. Hendrick B. Barner, assistant professor of surgery, has received the Honors Achievement award conferred by the Angiology Research Foundation and the Purdue Frederick Company of Yonkers, N. Y.

Dr. Barner received a bound *Honors Citation Volume* of the *Journal of Angiology* including his own prize winning paper entitled "Fresh and Frozen Homologous Venous Grafts for Arterial Repair" and a citation conferred in recognition of distinguished contributions and significant accomplishments in the support of research and study of angiology.

His paper is one of 25 selected annually by an executive committee of the International American College of Angiology.

Dr. Thomas F. Frawley, professor and chairman, department of internal medicine, was scheduled to deliver the annual LeRoy Sante lecture sponsored by the Phi Rho Sigma medical fraternity on May 2. Dr. Frawley's lecture was entitled "Clinical Use of Steroids."

Dr. C. Rollins Hanlon, professor and chairman, department of surgery, delivered the annual lecture before the Chicago Surgical Society on April 4. His lecture was entitled "Transplantation of the Heart." He also acted as visiting professor at Northwestern University.

Four members of the neurology and psychiatry faculty participated in four weekly lectures conducted at Webster College. Speakers and subjects were as follows: Dr. Edward T. Auer, "Criminal Behavior"; Dr. William E. Holt, "Sexual Patterns and Behavior"; Dr. John Schengber, "Drug Abuse"; and Dr. Dermott Smith, "Psychic Illness."

Dr. George James, dean, Mount Sinai School of Medicine, delivered the 23rd Hanau W. Loeb lecture sponsored by Phi Delta Epsilon medical fraternity and the office of the dean on April 25. His address was entitled "Is Medical Education Receiving Too High a Priority?" and was open to the medical public.

WASHINGTON UNIVERSITY

The appointment of a prominent heart surgeon has been announced by the School of Medicine and Barnes Hospital. Dr. Clarence S. Weldon will become associate professor of cardiac surgery on the Medical School faculty and, also, Barnes' cardiac surgeon-in-chief on July 1.

Dr. Weldon presently is assistant professor of surgery at The Johns Hopkins University School of Medicine, surgeon at the Hopkins Hospital and out-patient department, visiting surgeon for the Baltimore City Hospitals and consultant to both Loch Raven and Fort Howard Veterans Administration hospitals. He received his M.D. degree at Hopkins in 1955 where he also served his internship and residency. He was a senior assistant surgeon at the National Heart Institute for two years. He is a Markle Scholar in Academic Medicine.

Estelle Brodman, Ph.D., librarian and professor of medical history in anatomy, was general convention chairman for the American Association for the History of Medicine's 41st annual meeting in St. Louis in April. Meetings for the convention were held at the Chase Park-Plaza Hotel, Washington University School of Medicine, St. Louis University, the St. Louis Medical Society and the St. Louis College of Pharmacy.

The School of Medicine's division of hematology has received a check for $2,300 from the Marvin Feinstein Memorial Foundation. This donation, for research on leukemia, is the largest amount given since the Foundation was founded following Feinstein's death of leukemia in 1963.

Paul Londe, Foundation president, gave the check to Elmer B. Brown, M.D., associate professor of medicine and head of the division of hematology, at the 5th annual Feinstein Banquet. The Feinstein Foundation, a non-profit organization, has donated a total of $9,600 to the School of Medicine for use in research on this disease of the blood.

Robert J. Nelson has been appointed assistant director of the School of Medicine's graduate program in hospital administration.

Presently an assistant director of Barnes Hospital, and a teaching assistant in the hospital administration program, Mr. Nelson also will become the first full-time instructor. His primary responsibility will be in developing curriculum for comprehensive health planning, with additional duties in the administration of the program.

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Volume 65, Number 6—June, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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ROBERT D. WILLIAMS, M.D., *Smithville*

The Surgical Treatment of Strokes

A Review

Stenosis, occlusion or other lesions of the vessels within the thorax or neck are frequent causes of cerebral vascular disorders. These types of disorders are categorized as (1) transient ischemic attacks, (2) progressive or advancing strokes and (3) completed strokes.[1] Others add another category of asymptomatic bruits.[2]

Defining transient attacks of carotid insufficiency, as contrasted to vertebral-basilar insufficiency, is usually not necessary since the symptoms are inappropriate to one system or the other in at least 35% of the cases and a complete study of all four vessels supplying the brain is required. Difficulty will be encountered in distinguishing extracerebral from intracerebral causes, so arteriography is relied upon for this distinction. Major symptoms of cerebral vascular insufficiency are (1) recurrent dizziness or instability; (2) numbness, awkwardness, weakness or paralysis in an extremity; (3) transient visual blurring or loss of vision, especially unilateral; and (4) deterioration of ability to think, remember or do mental work.[1, 3–5]

Transient ischemic attacks may be on the basis of emboli which form on roughened areas of atheromatous plaques, actual cholesterol crystals, platelet conglutinations[6] or portions of the plaque itself or in a hemodynamic crisis resulting from a period of stress. With inadequate collateral circulation, such conditions as hypotension, anemia, hypoglycemia or physical exertion may result in an increased metabolic need of oxygen which is unavailable due to the decreased total flow, thus producing cerebral ischemia. The degree of recovery depends upon the duration of the stress.

Collateral circulation assumes a very prominent role in regard to the presence of cervical occlusive disease. With a normally formed anatomical circle of Willis, it can provide sufficient collateral circulation when as many as three of the major vessels are totally occluded. However, the Circle of Willis cannot always be relied upon in man since the classic configuration occurs in less than one half of the general population.[7] Alpers and co-workers[8] found that the classical anatomic pattern was present in 52.3% of 350 brain autopsies.

Other collateral channels which may be developed between the internal and external carotid system with occlusion of the internal system is by way of the ophthalmic artery or, occasionally, between the internal carotid and the vertebral or the two internal carotids. It is interesting to note that men are much more frequently affected in the ratio of 5:2. Approximately 52% of them will have some other form of vascular disease. A little more than one-half of the patients will have associated hypertension.[9]

The symptoms of subclavian-steal syndrome should be discussed here since they are usually the same as in the transient ischemic attack. The classical differentiation, however, is the usual presence of arm symptoms of ease of fatigue and the precipitation of an attack by use of the arm. The physical findings are diminished or absent radial pulse with a 20 mm or more systolic pressure gradient between the arms. Bruits frequently are heard on the affected side. This syndrome was first described by Contorni[10] in 1960 and, subsequently, is a fairly well differentiated cause of cerebral vascular insufficiency. There have been more than 130 reported cases and many more not reported, a large number of which have been cured by operation.[11] The pathological physiology is a reversal of flow through the vertebral artery because of the block in the proximal subclavian on the left or innominate on the right, with a syphoning of blood from the brain to the arm by way of the vertebral to the subclavian. The treatment of this condition ranges from no treatment in asymptomatic patients to complex transposition operations or merely ligation of the vertebral artery in the poor risk group. Thromboendarterectomy, with or without patch graft, is the usual treatment. However, a dacron tube bypass or replacement may be necessary. According to recent literature reviewed, of 54 patients operated on for this condition, there were 49 successes, three failures (including one death). Two were not recorded. A cure of neurological symptoms was effected in 38 out of 41 patients and a cure of the arm symptoms was similarly high.[11]

Between 40% and 50% of patients with cerebral vascular disease have significant disease accessible in the neck, either in the carotid, vertebrals or both, with the overwhelming predilection being at the carotid bifurcation (70%).[12] Significant disease means 50% or more of the diameter of the vessel occluded, though some consider 30% significant occlusion.

The untreated stroke patient can expect a 20% recurrence in one year and a 40% recurrence in four years. Ten percent to 40% will be dead. With anticoagulants, as many as 75% may be normal, but an additional 7% will die of cerebral hemorrhage.[1, 2, 9]

At least 50% of patients having major strokes will have a warning in the form of transient ischemic attacks prior to frank strokes.[1]

Aids in the diagnosis of cerebrovascular insufficiency are angiography, electroencephalography, brain scans and ophthalmodynamometry. The indication for arteriography is the suspicion of a surgically-correctable lesion. The choice of arteriographic routes can be made on the basis of physical examination. Obviously, if the common carotid pulse is absent, it would be impossible to do a percutaneous puncture, and a retrograde brachial, subclavian or femoral study would be required. Percutaneous direct puncture of the carotid with the injection of 10 cc of 50% Hypaque is quite satisfactory for visualization of the internal carotid and the circulation within the skull. The complications are minimal (less than 1%), and it is well tolerated if 10 minutes are allowed between successive injections.[13] It has been shown that 50% Hypaque actually causes a mild cerebral vasodilatation and is not harmful.[5] A rapid film changer is required, preferably a biplane type. Aortic archograms are necessary to delineate disease of the origin of the vessels. The percutaneous catheter technique of Seldinger is utilized. DeBakey's group use bilateral percutaneous subclavian puncture.[9, 12]

Indications for operations and selection of patients are as follows: In those with the frank completed stroke, the timing of the operation is quite important, since complete occlusion of the internal carotid usually results and it is difficult to open the completely occluded vessel because of proximal thrombosis. If these vessels are opened early, the infarcted brain may not be able to tolerate the new head of pressure and a hemorrhagic infarction will actually result in death in a significant number of cases. In massive strokes, it is thus advisable to wait until the neurologic status improves, which is frequently the case, and then attempt to open the vessels in order to improve the collateral circulation and lessen the chance for another stroke. Not all authors are in agreement with this method. Some feel[14] that operation within eight to 24 hours is mandatory.[4, 12] The mainstay of hope rests in improving the collateral circulation to the borderline ischemic area around the infarction. Patients with frequent transient ischemic attacks should be operated upon as soon as possible to prevent frank stroke. Those with progressive or advancing strokes also should be operated on as soon as possible.

There are two schools of thought in operating on a totally occluded internal carotid artery. DeBakey, Ellison and Harden usually do not operate, whereas Gurdjian, Parrot and Hoff attempt to open them.[15]

There also is a recent report of 33 patients operated on by Garamella *et al* with totally occluded vessels utilizing the embolectomy balloon catheters. With a time interval of eight hours to 21 days, 16 cases of successful restoration of flow confirmed by arteriography were achieved.[14] They conclude that operation on the totally occluded artery is advisable if it is done within three weeks.

Other indications for operation are those patients with a 30% to 50% or more occlusion (internal diameter) of one vessel and patients with minimal signs and symptoms who have arteriographic evidence of ragged or possibly ulcerated plaques, even though no decrease in flow is present. Symptomatic patients with vertebral block should be operated on. Patients with tortuous elongated arteries who, upon turning their heads, develop a kink with definite obstruction of the vessel should be operated on.[3] One case due to fibromuscular hyperplasia of the internal carotid artery has been reported. The patient was operated on successfully.[16] Of course, if significant intracranial stenosis or block is present, the operation is doomed to failure due to inadequate runoff after restoration of flow.

The technique of operation is as follows: Local or general anesthesia is used depending upon the circumstances. Lyons[13] *et al* found that in utilizing cerebral venous oxygen content measurements, the best protection against anemic infarction during operations is with general anesthesia, oxygen rich gas mixtures, mild hypercarbia and induced systemic hypertension. They also determined that if the O_2 content dropped below 50%, the need for an internal shunt was present. Pressure monitoring devices are quite useful in ascertaining the efficiency of the repair. The use of an internal shunt is seldom needed.

The advantage of operating under local anesthesia, however, is quite apparent in that the neurologic status of the patient can be continuously monitored when clamping the carotids. Of course, with a totally occluded artery, there is no need for concern in clamping the vessel. Since the vast majority of the plaques and obstructions appear at the bifurcation of the common carotid, endarterectomy can usually be carried out. The vessels are mobilized carefully. The need for a shunt can be ascertained. Systemic heparinization is carried out by injecting 50 mg to 100 mg intravenously.[3, 8] The clamps are applied to the internal, external and common carotids, the vessel is opened longitudinally and a careful thrombectomy is performed. All debris is removed and the proximal intimal dissection is carefully inspected to determine the need for tacking it down to prevent a flap like action and recurrence of thrombosis. The arteriotomy is closed with or without a patch graft with a running 4 or 5-0 silk releasing the external carotid clamp just before the final suture is placed to flush out the air and any residual debris. The common carotid clamp is next removed. This permits the first flow of blood into the external system. The internal clamp is then removed.

A review of the literature which categorizes causes of cerebral vascular disorders and discusses major symptoms, diagnoses, indications for operations and operating techniques. Doctor Williams is in the private practice of General, Cardiovascular and Thoracic Surgery. He also is a member of the Attending Staff at Kansas City General Hospital and a Lecturer in Surgery at the University of Kansas Medical School.

There have been several techniques described for removing clot from the inaccessible intracranial portions with the use of the embolectomy[17] catheters and by the use of saline endarterectomy.[18] The saline endarterectomy is performed by forcing fluid between the intima and the advantitia with clamps placed about the catheter distally so that the dissection is accomplished by fluid pressure and a clean break is obtained as high as the ophthalmic artery. It is essential in the totally occluded artery that back bleeding be obtained from the proximal end or the operation will not be successful. The internal carotid should be ligated. Other procedures which can be used are resection of the vessel and end-to-end anastomosis or resection and replacement with dacron graft. Heparinization is not continued postoperatively, but it is not counteracted with protamine. For blocks more proximal in the common carotid or innominate, bypass dacron grafts are used. For vertebral origin blocks, endarterectomy and patch grafts are required. Multiple extracranial arterial involvement is common and runs in as many as 75% of the cases. If bilateral surgery is required, it is staged a week to ten days after the initial surgery. Monitoring devices during surgery are very useful and include electroencephalogram, cerebral venous oxygen content and direct pressure recordings.

Results

The largest series reported thus far was by Crawford, DeBakey, Garrett and Howell in August, 1966 when they reported their 13-year experience with 1600 patients on whom operations were done.[12] Ninety-five percent survived the period of hospitalization; 85% were improved;

65% were asymptomatic; 6% became worse.

Rainer *et al*[15] in Denver reported operations on 116 patients. They had 110 cases of transient ischemic attacks and six frank strokes. Two percent of their patients became worse, 16% were unchanged, 58% were improved and 24% were asymptomatic. Four of the patients died postoperatively and nine died of unrelated causes.

Yashion, Jane & Javid[2] reported in March, 1966 on 175 patients with 215 endarterectomies. Sixty-four were cured; 23 were improved; 35 were unchanged; and nine had recurrent CVA's. Forty-four patients died, only eight of whom died of another stroke.

Thompson *et al*[19] reported on 359 cases of carotid endarterectomy in May, 1966. They had a 98% restoration of flow in the partially occluded arteries and 42.4% restoration of flow in their totally occluded arteries. They had 15 deaths for 3.3% mortality. Twelve of those deaths were in the frank stroke group. They followed these patients for six months to eight years and 60 more died. Only 10% of the 60 deaths were due to strokes. Sixty-three percent were improved. Seven or 2.8% were worse.

Considerable help can be afforded "stroke" patients. Of course, the more severe and profound the stroke, the less the opportunity and success for operation. A few in this category, however, can be salvaged. In those with transient ischemic attacks or with vessels narrowed 50% or more, significant benefit can be derived from carefully planned and executed operation. The importance of examining the neck for pulses should be emphasized. Two-thirds of these patients will have abnormal physical findings. Of course, for accurate diagnosis and any chance of treatment, arteriography is usually necessary.

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What it means to have emphysema is the subject of "Emphysema, the Battle to Breathe," a new publication just released by the National Center for Chronic Disease Control, U. S. Public Health Service. The publication is a reprint of an award-winning, five-part series written by Frank E. Carey, Associated Press Science Writer, and carried by AP in September 1966. The series generated strong public interest in the fast-mounting and little understood problems of chronic lung disease.

Single copies of "Emphysema, the Battle to Breathe," PHS Publication No. 1715, are available from the Public Health Service, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20201. It may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for 35 cents a copy, $26.25 a hundred.

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Report of a Case Illustrating . . .

Myocardial Infarction in a 23-Year-Old Woman With Mitral Stenosis

THE PATIENT, a 23-year-old single woman, entered the hospital with a chief complaint of dyspnea, cough and hemoptysis. At the age of 12 she had had rheumatic fever with joint pain and swelling and was unable to attend school for about three months.

The examination revealed a presystolic apical murmur with marked accentuation of the first heart tone and an opening snap heard over the entire precordium. A barium swallow showed considerable displacement of the esophagus and enlargement of the left auricle. The electrocardiogram revealed a right axis deviation, a qR complex in V-1 and notching of the P waves (P mitrale), particularly in Lead II. Two days after admission, she developed numbness of the right arm and right leg which promptly cleared in a few days and was considered to be due to a small cerebral embolus. On the fifth hospital day, she complained of severe chest pain. An electrocardiogram gave evidence of P mitrale, incomplete right bundle branch block and a pattern of posterior myocardial infarction (Fig. 1). The SGOT values were estimated on three successive days and were reported as 150-75-40, respectively. We feel that the acute occlusion of the right coronary artery is best explained on the basis of an embolus originating in the left auricle.

The patient made a slow, but good recovery from this coronary episode. She appears well at this time and is on an anticoagulation program. A mitral commissurotomy will be considered in the near future.

DISCUSSION

It is rare indeed to see a pattern of myocardial infarction in a young woman who also has rheumatic heart disease. The embolic phenomena to the brain and the coronary arteries are surely best explained by clots originating in the left auricle and washed into the periphery. No further emboli have occurred since this patient has been on anticoagulant therapy.

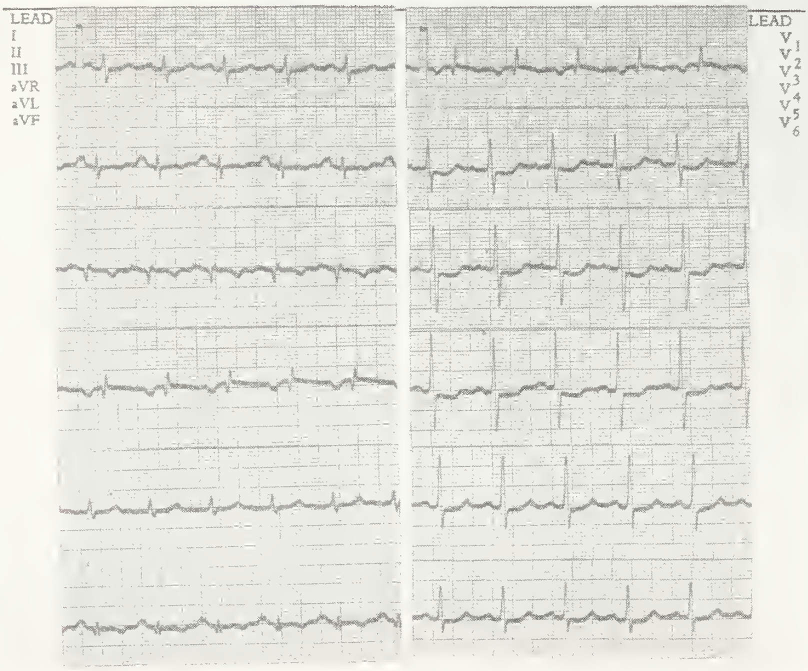

Fig. 1 The electrocardiogram shows a right axis deviation, an incomplete right bundle branch block and a P mitrale in Lead II. These are rather typical findings for mitral stenosis. The deep Q waves in Lead III, the tiny Q waves in AVF, together with the ST segment bowing and T inversions in Lead II, Lead III and AVF are quite characteristic for posterior wall infarction.

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Special X-ray Exhibit

Aerated Multiple Mediastinal Masses

M. WENDELL DIETZ, M.D.,[*] ***Springfield***

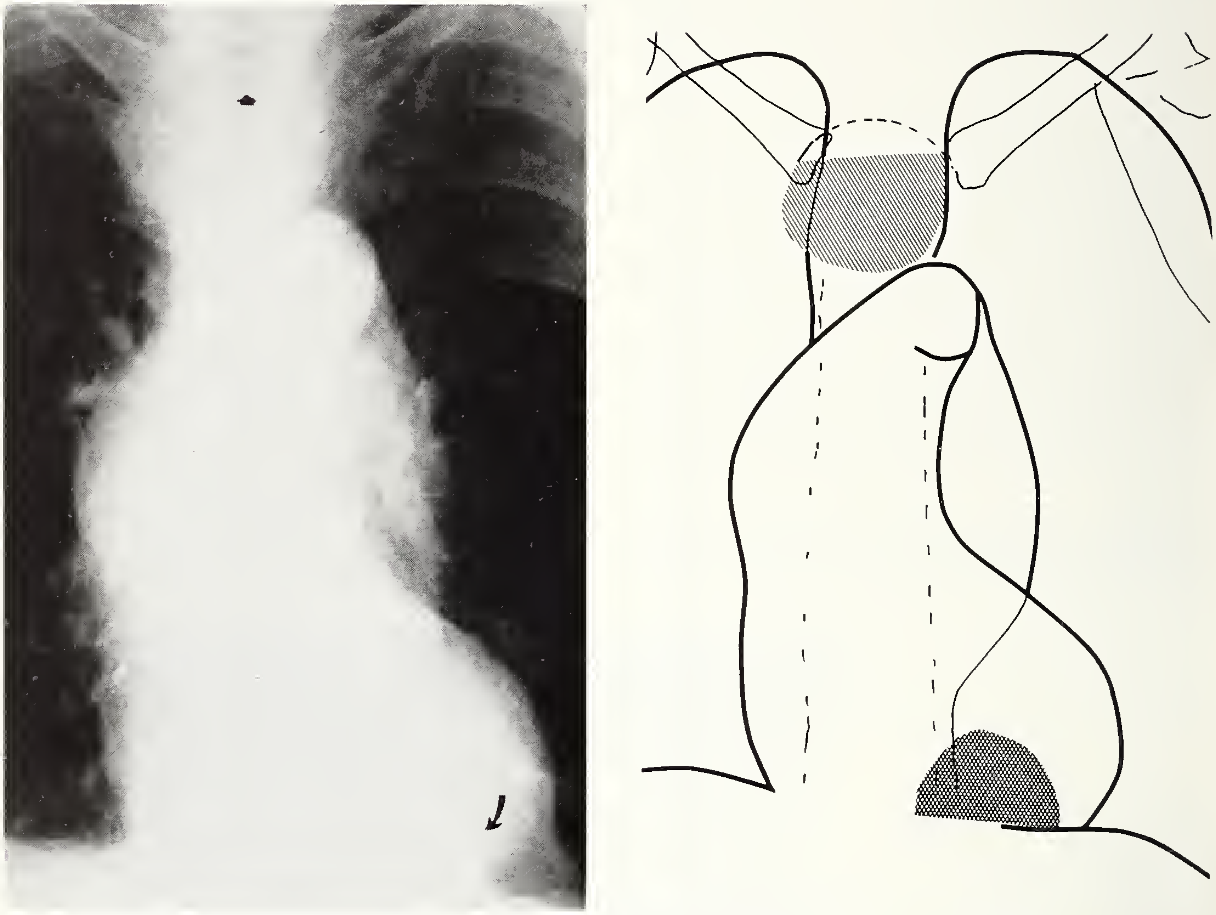

Fig. 1 Case I. *(l)* Clinically silent, dual mediastinal lesions. *(r)* Line drawing emphasizes dual midline abnormalities.

SOLID MEDIASTINAL SHADOWS, single or multiple, warrant a differential diagnosis limitable only by the endurance of the examiner. Detect gas bubbles in the shadow, however, and a spacious survey of vascular, neoplastic, spinal lesions, etc. dramatically shrinks to a distressingly narrow spectrum of contingencies. Such is the predicament posed by the chest films of two elderly females (supplemented by line drawings to emphasize the dual midline abnormalities). In Case I, a solid supradiaphragmatic mass is linked with an air-containing lesion at the thoracic inlet (Fig. 1). Air-fluid levels in Case II are adjacent but unequal in extent (Fig. 2).

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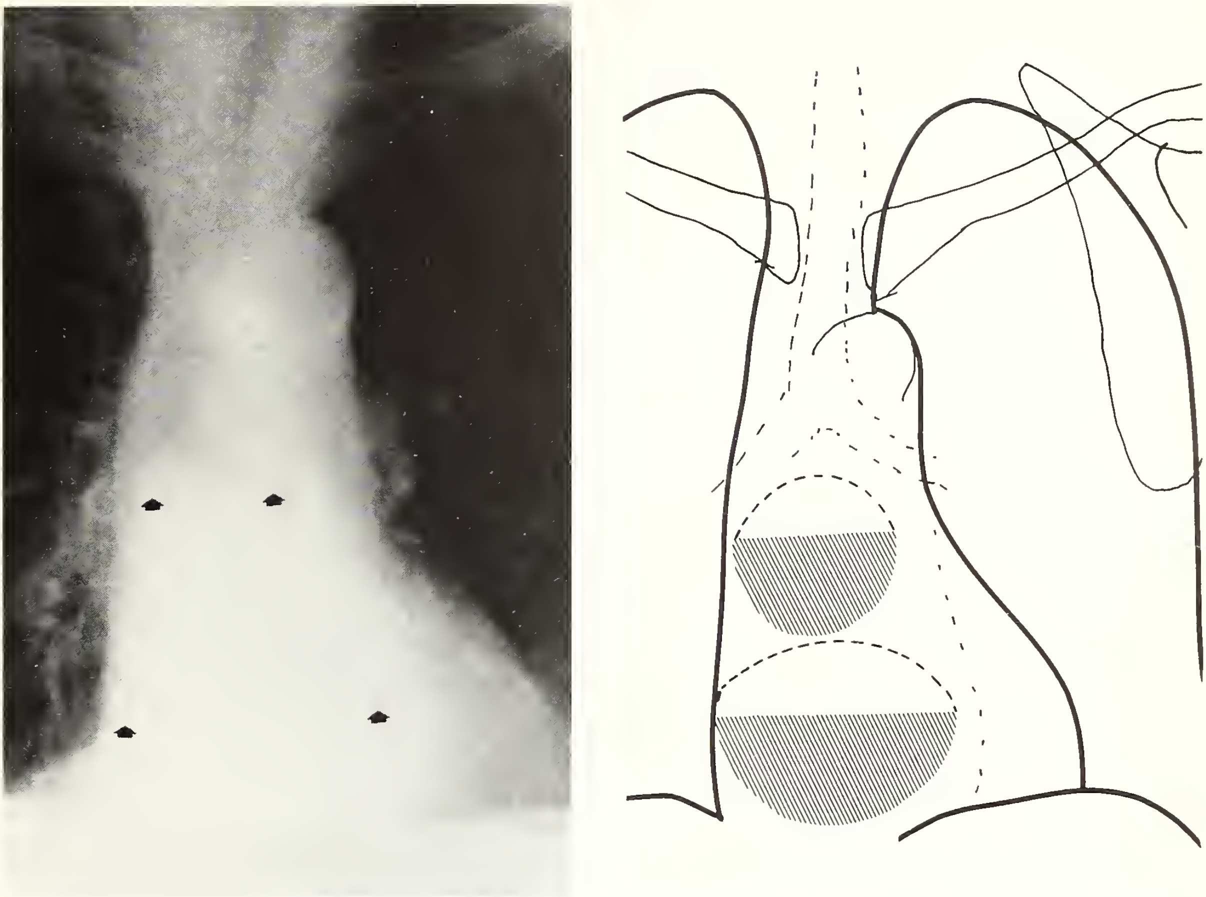

Fig. 2 Case II. *(l)* Incidental demonstration of a pair of asymptomatic air-fluid levels. *(r)* Line drawing emphasizes the dual midline abnormalities.

Discussion

An academician could speculate about several rare congenital mediastinal cysts that only occasionally contain air:

A *neurenteric cyst* is connected to the spinal cord and meninges by a stalk traversing a vertebral body defect. This bizarre lesion may likewise be connected to the small bowel by a patent stalk which penetrates the right diaphragm.

Closely akin to the neurenteric cyst is the alimentary tract duplication, an *enterogenous cyst.* If gastric mucosa is present in this cyst, ulceration with perforation may introduce air through a fistula with the esophagus or tracheobronchial tree.

A related developmental respiratory anomaly, the *bronchogenic cyst,* may, via a congenital communication with the trachea or one of the bronchi, contain air and fluid.

Could an overburdened radiologist mistake the floating fatty material in a *cystic teratoma* for air? An equally unlikely possibility is the teratoma that has acquired a communication with an air passage by spontaneous rupture.

Each of these patients was hospitalized for investigation of abdominal symptoms. Neither alluded to chest complaints of any type. These films were, therefore, routine admission examinations performed without preceding instrumentation. How then can one credibly propose that the air collections are the result of *mediastinal emphysema* or a *gas-forming bacterial abscess* following esophageal rupture?

If these air-fluid levels were not decidedly midline (i.e., mediastinal) in location, a pragmatist could volunteer the following pleural or pulmonary abnormalities: *infected pleural bleb, loculated hydropneumothorax; infected pneumatocele,* a frank *lung abscess.*

Case I is particularly enigmatic because the lesions are at the extremities of the thorax and the basal mass is homogenously solid. Theoretically, Case II should be more readily diagnosable: the masses are adjacent, near the diaphragm and similarly aerated.

Volvulus of a herniated stomach can create multiple air-fluid levels, but not in an asymptomatic individual. A *compound diaphragmatic hernia* (stomach and colon, for example) may contain two air bubbles and be clinically silent. In desperation, how about *achalasia*? Perhaps, a megaesophagus is multiloculated by a partially obstructing carcinoma or esophagitis.

Had enough? Following are answers to these riddles that are predictable and attainable by one of the most ancient and least sophisticated roentgen techniques known: The barium swallow!

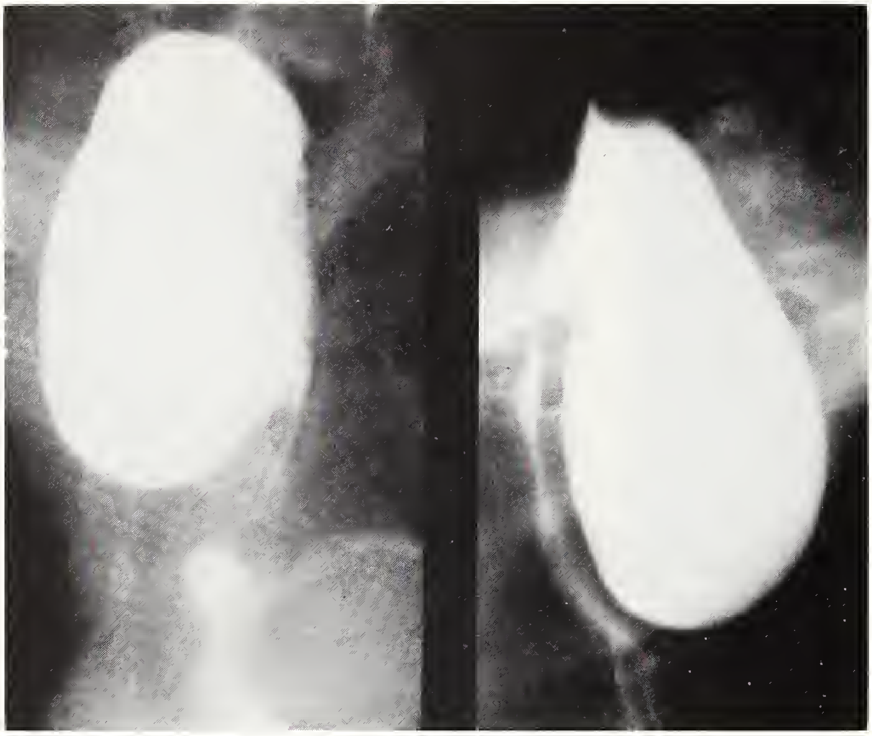

Fig. 3 Case I. *(l)* Frontal and *(r)* oblique spotfilms reveal barium-filling of an oval Zenker's diverticulum projecting into the right posterior mediastinum from the inferior neck. The esophagus is displaced forward and to the left.

CASE I

The proximal air-fluid collection is in an intrathoracic *Zenker's (pharyngo-esophageal) diverticulum* (Fig. 3). These sacs arise at the junction of the pharynx and esophagus in an anatomically weak area in the posterior wall above the cricopharyngeal muscle. The mucosal bulge at the site of congenital weakness is probably accentuated by muscular incoordination. Although this patient admitted only reluctantly to experiencing dysphagia, diverticular expansion (due to inability to empty) frequently creates symptoms secondary to esophageal and tracheal compression against unyielding structures.

The inferior mediastinal "mass" is an unrelated *hiatal hernia* (Fig. 4). In the initial chest examination, the herniated gastric segment appeared solid because its lumen was filled with food at the time of filming.

CASE II

Again, the uppermost air-fluid shadow is due to a pulsion type of esophageal diverticulum (Fig. 5)! Unlike the combination of lesions in Case I, an *epiphrenic diverticulum* rarely causes symptoms but is often associated with a hiatal hernia. (Furthermore, these diverticula occur frequently in conjunction with achalasia.) The majority of epiphrenic diverticula detected by the roentgenologist do not attain the dimensions of this sac.

Here, too, the distal gas and fluid collection is due to a *hiatal hernia*. This enormous hernia is the common direct, sliding variety—the usual explanation for a retrocardiac density detectable in a chest roentgenogram.

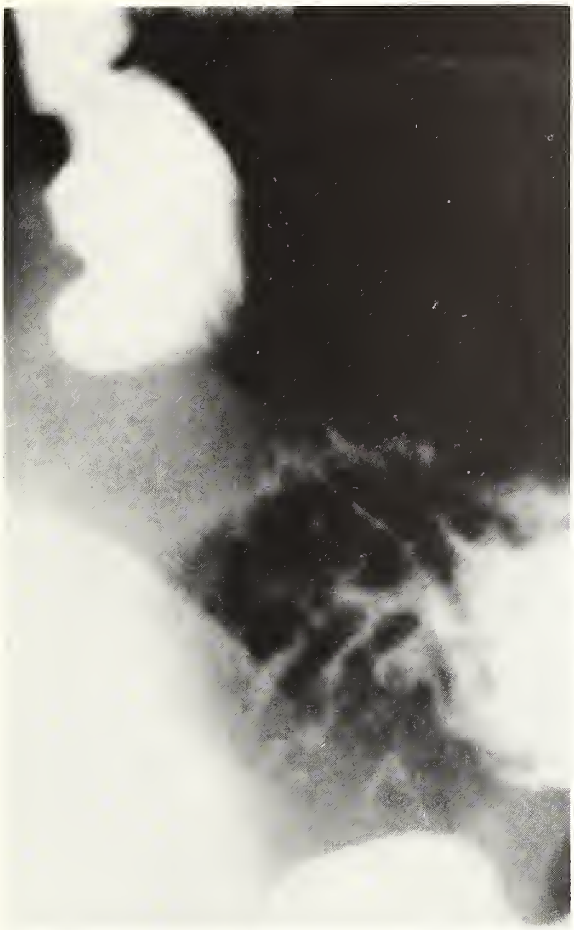

Fig. 4 Case I. An esophagram outlines a direct hiatal hernia free of manifestations of esophagitis. Esophageal emptying was prompt.

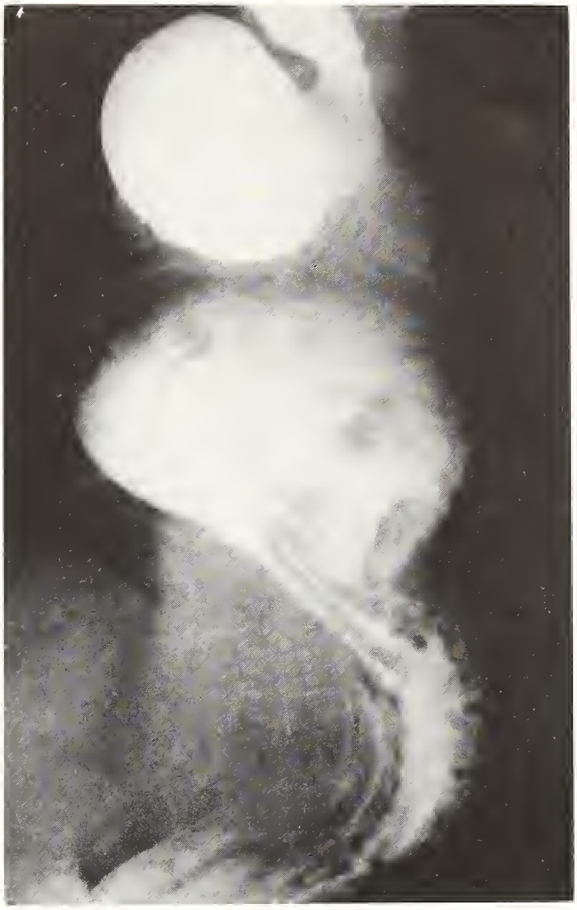

Fig. 5 Case II. A large epiphrenic diverticulum is opacified by the barium suspension. It arises from the terminal esophagus, projects to the right and appears to rest upon the roof of an adjacent herniated proximal stomach. Note the wide mouth.

A new theory on the way cancer grows relatively unregulated out of normal cells was presented to the American Society for Experimental Pathology by Dr. Henry C. Pitot, professor of oncology and pathology at the University of Wisconsin School of Medicine.

In his lecture as winner of the Society's annual Parke-Davis Award, Dr. Pitot described some of his studies in experimental liver cancers of rats which have led him to suggest that the growth of cancer cells is the result of an alteration in the cell's regulatory mechanism and that this mechanism may be independent of the direct action of the cell's genes. Not only does cancer arise as a result of the malfunction of this mechanism, Dr. Pitot argued, but the alterations of this mechanism are unique to each particular cancer.

The concept, if it is correct, may well open the door to an understanding of the development of cancer at the level of the molecule.

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Limitations of Peritoneoscopy

A Review

In a recent survey of physicians' and surgeons' attitudes toward peritoneoscopy,[1] one half of those interviewed thought it a good procedure, yet one sixth believed it to be a "bad" procedure. It was our assumption that negative attitudes toward peritoneoscopy were based on three types of experience: (a) improperly selected cases for which diagnoses could be readily established by simpler means; (b) improperly selected cases for which diagnoses would have to be confirmed by laparotomy anyway; and (c) failure to anticipate complications of the procedure.

This study was undertaken to help determine which of the usual clinical indications for laparoscopy would lead to *most benefit for the patient.* Furthermore, it would help us to gain some idea of the frequency of complications.

Selection of Patients

The following were considered to be indications for peritoneoscopy (Table 1): (a) jaundice, etiology uncertain; (b) ascites, etiology uncertain; (c) hepatomegaly with liver sufficiently nodular to palpation to raise question of presence of neoplasm, metastases or hepatoma; (d) clinical suspicion of peritoneal seeding by cancer or tuberculosis; and (e) clinical suspicion of metastatic liver disease or hepatoma.

TABLE 1

INDICATIONS

57 Procedures	
Jaundice	**18**
Ascites	**27**
Nodular liver	**14**
Suspicion of metastases or hepatoma	**22**
Suspicion of peritoneal seeding by Tbc or cancer	**4**

NOTE: Indications add up to more than 57, as many patients had more than one indication for the procedure.

Absolute contraindications were (a) recent myocardial infarction, (b) recent history of congestive heart failure and (c) major or uncorrected bleeding tendency.

Relative contraindications were (a) chronic pulmonary disease, (b) minor but corrected bleeding tendency and (c) multiple previous abdominal operations (resultant adhesions may cause viscera to become adherent to abdominal wall predisposing them to perforation during the procedure).

Materials and Methods

A. *Preparation*

1. The instrument used was the Menghini-Wildhirt peritoneoscope distributed by the Storz Instrument Co.
2. The procedure was performed in the outpatient department (minor surgery suite) of the hospital by two physicians with one nurse assisting.
3. Premedication consisted of Meperidine, 50 mg, and either Phenergan, 50 mg, or Phenobarbital, 100 mg, for most patients. No premedication was given to patients who had recent bouts of portal systemic encephalopathy.
4. The examiners washed their hands carefully with surgical soap. Caps, masks, gowns and sterile gloves were worn.
5. The patients' abdomens were shaved, washed with soap and water, then washed with either Zephiran or Tincture of Iodine and washed again with alcohol. Patients were draped with sterile towels.

B. *Technique*

1. After inducing local anesthesia with Pontocaine 2%, the Veres air insufflation needle was passed into the left lower abdominal quadrant. Through this, the abdomen was inflated with

oxygen at a rate of one liter per minute. If the patient did not complain of pain, oxygen was allowed to run for 15 to 30 seconds. It was resumed when the internal position of the needle could be observed to be lying in the peritoneal cavity (see Item 3).

2. After inducing local anesthesia, a 1.5 cm incision through skin, subcutaneous tissue and fascia was made about 2.5 cm to the right and below the umbilicus. Through this incision, the trocar was admitted with a moderate amount of pressure and a rotatory movement.

3. The pointed inner stylet was removed and the telescope and illuminating apparatus were introduced. Immediately, the position of the air insufflation needle was checked. Once the inner tip was confirmed to be lying free, more oxygen was introduced until we were able to visualize the abdominal contents satisfactorily.

4. Liver biopsies were obtained either (a) by passing a Vim-Silverman needle through a separate puncture and visually guiding its tip to the proper place or (b) by passing the special long Menghini needle along the channel that lies parallel to the telescope. (This, of course, did not necessitate an additional skin puncture.)

5. After completing the examination, the incision for the trocar and telescope was closed with a "purse-string" suture. The other punctures required no sutures.

Comment: Once our group became familiar with the procedure, it took approximately one hour to complete the procedure (timed from the patient's arrival until his departure).

Results

A. *Accuracy*

The accuracy of our gross diagnoses is depicted in Tables 2, 3 and 4.

In the group of ten patients who came to autopsy, there were two significant errors. The first was made in the case of a 70-year-old man with obstructive jaundice. The liver appeared normal and only the tip of the fundus of a normal appearing gallbladder was seen. We reached no diagnosis at peritoneoscopy. Liver biopsy confirmed obstructive type jaundice. Laparotomy revealed stones in the gallbladder, cystic duct, common duct and common duct rupture with an adjacent abscess. If we had performed either percutaneous transhepatic cholangiography or had punctured the gallbladder and injected radiopaque dye, the obstruction would have been demonstrated. As subsequent laparotomy was anticipated, however, we elected not to expose the patient to the risks of cholangiography.

TABLE 2

ACCURACY OF GROSS DIAGNOSIS

Autopsy Group	*10 Patients*
Perfect	
Metastatic carcinoma	3
Hepatoma	1
Liver abscess	1
Renal dis. (no liver disease)	1
Partially Correct	
Hepatoma (both diagnosed as metastatic carcinoma, super-imposed or cirrhosis)	2
Incorrect	
Extrahepatic obstruction due to stone	1
Hepatoma	1

TABLE 3

ACCURACY OF GROSS DIAGNOSIS

Non-Autopsy Group	*38 Patients*
Perfect	
Hepatoma	1
Cirrhosis	20
Fatty liver	2
Tuberculosis	2
Metastatic ca.	7
Renal disease (no liver disease)	1
Hepatitis	1
Incorrect	
Hepatitis (liver appeared normal)	1
Extrahepatic obstruction due to stone (gall-bladder not seen)	1
Metastatic carcinoma (not seen at peritoneoscopy but reasonably certain on liver scan and biochemical tests)	1
Dubin-Johnson Syndrome	1

TABLE 4

ACCURACY OF GROSS DIAGNOSES

Final Diagnoses Uncertain	*5 Patients*
? Drug jaundice	1
? Granulomatous liver disease	1
? Chronic hepatitis	1
Fever of unknown origin	1
Probable cirrhosis (biopsy non-diagnostic)	1

The second error was made in the case of a 72-year-old man with cirrhosis who, after two years of a stable clinical course, developed ascites and icterus leading to a clinical diagnosis

This interesting paper presents a review of the literature and of 57 peritoneoscopies which led the authors to conclude that this procedure was of greatest value in confirming the presence of metastases or hepatoma superimposed on cirrhosis. Also, it helped to prove the diagnosis of tuberculous peritonitis. They determined that the procedure was of less value in elucidating the correct diagnosis for jaundiced patients, but this limitation may be obviated by cholecystocholangiography. They cite significant complications. The authors are from the Department of Medicine, University of Missouri at Kansas City; General Hospital; and the Department of Medicine, Division of Gastroenterology, The Menorah Medical Center.

of hepatoma. Neither liver scan nor peritoneoscopy could demonstrate the 4.0 cm × 4.0 cm hepatoma arising from the "bare area" of the liver and extending upward behind the heart. The "partial" errors occurred early in our study. These were in the cases of two patients with coarse nodular cirrhosis and multilocular nonumbilicated areas of neoplasm throughout the liver. Inexperience led to the labeling of these gross findings as metastases rather than hepatoma. Guided liver biopsy, however, established the precise diagnosis.

In the non-autopsy group of 38 patients, there were four significant errors. As occurred with the patient with hepatoma in the autopsy group, two of these errors were unavoidable: (1) The patient with hepatitis had a liver that appeared normal grossly. (2) The surface of the liver of the patient with metastases appeared normal. There were probable deep metastases indicated by blood chemistries and evident on hepatic scan.

In the case of the patient with extrahepatic obstruction, the gallbladder could not be seen and no diagnosis could be made. As it was clear that laparotomy would be the next step, cholangiography with its attendant risks was not attempted. The appearance of the liver of the patient with Dubin-Johnson syndrome won't be forgotten. However, we had never seen it before and our error was due to inexperience.

In summary, then, there were six significant failures in diagnosis in 48 peritoneoscopies (or an accuracy of 87.5%). Two of the errors could have been avoided by adding cholangiography to the procedure. Three of the errors were unavoidable since the significant pathology could not be recognized by gross examination.

B. *Complications*

We divide the complications into three categories: (1) major, (2) minor and (3) insignificant (Table 5).

TABLE 5

COMPLICATIONS

Major	
Biliary peritonitis	1
Aggravation of peritonitis following puncture of liver abscess	1
Minor	
Fever	6
Leakage of ascites	4
Incisional bleeding	2
Atelectatic pneumonia at right base	1
Insignificant	
Pneumo-omentum	3
Air insufflation needle entered colon	1
Moderate subcutaneous emphysema	1

1. The two major complications occurred as follows: (a) A 36-year-old woman presented with jaundice, fever, leukocytosis and semistupor. It was felt that she had multiple liver abscesses, and peritoneoscopy was attempted to confirm the diagnosis and to puncture the liver and aspirate an abscess to obtain material for appropriate bacteriological studies. This was done. However, the patient did poorly despite appropriate antibiotics and died 36 hours after the procedure. Autopsy revealed generalized peritonitis, a necrotic pancreas with a large pancreatic abscess and numerous hepatic abscesses. Although we felt that the patient probably would have died and regarded the procedure as an heroic attempt to help save her life, we regard the death following the procedure as a major complication since the peritonitis may have been aggravated by "needling" the abscess. (b) A 72-year-old man with moderately severe chronic pulmonary disease and obstructive jaundice underwent laparoscopy to determine if liver metastases were present. If so, no surgical attempt to relieve the obstruction was to be attempted. Obvious liver metastases were visualized during an uneventful procedure with biopsy. Within 24 hours, however, the patient developed chills, fever, abdominal pain and re-

bound tenderness—an obvious case of peritonitis. The peritonitis subsided with parenteral feedings and antibiotics, but, in his weakened condition, he then developed bilateral basilar pneumonia and died in respiratory acidosis two weeks following laparoscopy.

2. The following were included in the "minor complications": (a) Low grade fever in six cases. These subsided after two or three days of antibiotic therapy. (b) Leaking ascites through incisional site in five cases. All stopped spontaneously in three to five days. (c) Minor degrees of bleeding from the incision in two cases. One of these required an additional suture. (d) Right basilar atelectatic pneumonia in one case. This resolved after five days of appropriate therapy.

3. The five "insignificant complications" were unassociated with patient discomfort, fever or other clinical signs. They included (a) three patients with significant pneumo-omentum (air in the greater omentum), which led to replacement of the Veres needle tip into the free cavity and then completion of the procedure; (b) penetration of air needle into colon in one case, which was not associated with any discomfort by the patient nor any subsequent fever, tenderness or leukocytosis; (c) moderate subcutaneous emphysema in one case in which the air was absorbed in three days.

C. *Technical Problems*

There were 23 incomplete procedures: (a) In four, we were unable to see because of adhesions from a single previous surgical procedure. (b) We were unable to see the right lobe of the liver in three patients. This was due to adhesions from previous cholecystectomy in two patients and to adhesions after surgery following a perforated appendicitis in one patient. (c) In nine, we were unable to see the gallbladder because of adhesions. (d) In seven, we were unable to visualize the spleen (Table 6).

TABLE 6

TECHNICAL PROBLEMS

A. Incomplete procedures	**23**
Unable to see right lobe of liver due to adhesions	**3**
Unable to see gallbladder	**9**
Unable to see spleen	**7**
Unable to see at all due to adhesions	**4**
B. False negative biopsies	**4**
(All obtained with long Menghini needle)	

There were four false negative biopsies. In each situation, the long Menghini needle was used and was observed to enter an obvious tumor nodule. However, the specimens obtained for microscopic study revealed no neoplasm. In attempting to explain, we rationalize that, in moving the needle rapidly, we did not establish suction until the needle tip had passed through the tumor.

D. *Helped Patient* (Peritoneoscopy was the simplest procedure to establish diagnosis rapidly) (Table 7).

TABLE 7

Helped Patient	***13 Patients***
(Unequivocally, peritoneoscopy was the simplest procedure to establish diagnosis rapidly)	
Metastatic carcinoma	**6**
Hepatoma	**4**
Miliary tuberculosis	**2**
Granulomatous liver disease?	**1**

1. Hepatoma superimposed on cirrhosis was confirmed four times. In contrast to the management of cirrhosis, narcotics were not withheld and the patients were permitted a more tolerable last few weeks or months.

2. Foci of metastatic carcinoma were observed in six patients. It was felt that blind liver biopsy could not have detected these lesions.

3. In two patients with miliary tuberculosis (and tuberculous peritonitis), the diagnosis was rapidly established and appropriate therapy started.

4. One patient previously had a blind liver biopsy which revealed no histologic abnormalities. This patient then had a guided liver biopsy which revealed non-caseating granulomatous liver disease. The etiology of this granulomatous process remains unknown. Adrenal cortical steroids have led to dramatic improvement in the patient's symptoms.

Discussion

Our study is neither unique nor original in pointing out the limitations of peritoneoscopy. Anderson, Dockerty and Waugh[2] reviewed 396 examinations performed at the Mayo Clinic. They reported that in 6.1% of the examinations, peritoneoscopy missed the lesion and, in 6.2%, the peritoneoscopic diagnosis was incorrect. In the same series, the laparoscopic diagnosis was right in 83.5% of the patients with hepatic disease and in 71.7% of the patients with ascites of unknown etiology. The Mayo Clinic report is comparable to that of Herrera-Llerandi[3] who reviewed 390 examinations and was able to establish the correct diagnosis 73.3% of the time. Keil and Landes,[4] as well as Haubrich,[5] recommend performing cholecystocholangiography at the time of peritoneoscopy performed for jaundice, which is possibly due to extrahepatic obstruction. Considering these reports, as well as the recent article on inadvertent gallbladder puncture[6] (at the time of percutaneous transhepatic cholangiography), cholecystocholangiography seems reasonably safe. We do not anticipate performing the procedure until we have gained a reasonable amount of proficiency in the animal laboratory.

Despite a recent report of no complications in 140 peritoneoscopic examination,[7] it must be accepted that a significant number of important complications do occur. Vasilier[8] recently reported 642 complications occurring during the first stage of peritoneoscopy (induction of pneumoperitoneum). These included nine fatalities, six of which were due to air embolism. There was one death in the Mayo Clinic series[2] due to hemorrhage from a biopsy site. Herrera-Llerandi[3] reported a 2.8% complication rate which includes two deaths (one death from a perforated viscus and one from excessive premedication). Other complications were leakage of ascites, four; wound sepsis, two; local hemorrhage, two; and reversible shock, two. Ruddock[9] reported one death (due to hemorrhage from a biopsy site) in 1,473 examinations. Finally, Haubrich[5] in a review of 11,048 examinations, reported six deaths. They felt, however, that these were due to improper case selection or deviation from accepted technique.

There are technical problems other than complications. Anderson, Dockerty and Waugh[2] reported that in 18 patients (6.2% of the series), the peritoneoscopic examination was unsatisfactory because of adhesions. On the subject of biopsy, Haubrich[5] preferred needle biopsy to forceps biopsy. He felt that there was less danger of bleeding and deeper tissue was obtained when the biopsy needle was used. Recently, the use of a peritoneoscope warmer[10] was advocated. This is to prevent condensation on the lens during the first few minutes that the telescope is in the abdominal cavity. For the most complete discussion of technical aspects of peritoneoscopy, the reader is referred to Wittmann's[11] two volume classic.

Finally, despite its limitations, peritoneoscopy should be acknowledged as a procedure that offers reasonable patient benefit in properly selected cases. It is difficult to comprehend how it can be ignored completely as it was in the recent article by Bourke, Cannon and Ritchie[12] on "Laparotomy for Jaundice."

SUMMARY

After reviewing 57 peritoneoscopic examinations and the pertinent literature, we feel that peritoneoscopy must be acknowledged as an acceptable procedure for a community hospital.

Peritoneoscopy is of greatest value in confirming the presence of metastases to the liver or hepatoma superimposed on cirrhosis. Moreover, it must be realized that if these lesions are deep to the surface or in inaccessible areas, they will be missed.

Peritoneoscopy is of value establishing rapidly the diagnosis of tuberculosis peritonitis.

In the jaundiced patient, peritoneoscopy is of more limited value. The diagnostic accuracy will be improved if cholecystocholangiography is performed.

It must be anticipated that clinically-significant complications may occur. These include air embolism, bleeding from a biopsy site and bile leakage after biopsy of a liver whose outflow is obstructed.

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Reprints: Walter Harvey Jacobs, M.D.
781 E. 63rd St.
Kansas City, Mo. 64110

GEORGE C. WEE, M.D., LESLIE F. BOND, M.D.,
GEORGE L. TUCKER, M.D., SAUL J. KLEIN, M.D. *and*
RICHARD CARLIN, M.D., *St. Louis*

'Gathering' of Tunica Vaginal in the Surgical Cure of Idiopathic Hydrocele

A surgical procedure which will prevent the complication of postoperative scrotal hematoma is described and illustrated. The authors are from the Surgical Service at Veterans Administration Hospital, Jefferson Barracks, where Doctor Wee is Chief, Doctors Bond and Tucker are Attending Surgeons and Doctors Klein and Carlin are Attending Urologists. Also, Doctor Wee is Assistant in Surgery, Doctors Bond and Tucker are Assistants in Clinical Surgery and Doctors Klein and Carlin are Assistants in Clinical Urology at the Washington University School of Medicine.

Scrotal hematoma is a most embarrassing complication which frequently follows operations for the surgical cure of idiopathic hydrocele. Many surgeons warn the patient to expect significant scrotal enlargement postoperatively. This incidence of postoperative hematoma can be virtually eliminated by meticulous attention to hemostasis.

A surgical procedure which will prevent this complication was first described by Peter H. Lord, M.D. in the *British Journal of Surgery* (51:914 (Dec.), 1964). We have used this procedure with minor modifications in more than 20 patients. The results have been uniformly good and without incidence of postoperative hematoma or recurrence during a one-year follow-up.

The exact surgical technique is described and illustrated in the following seven steps:

Step # 1. The hydrocele is grasped with one hand in order to stretch the scrotal skin. An incision 3 cm to 4 cm long is made between the superficial vessels. The skin and dartos are incised (Fig. 1).

Step # 2. Allis's forceps are applied to each edge of the wound to grasp the skin and dartos where the bleeding points are seen. Usually two or three Allis's clamps are used on each side. This will stop the bleeding points without the use of diathermy or ligature (Fig. 2).

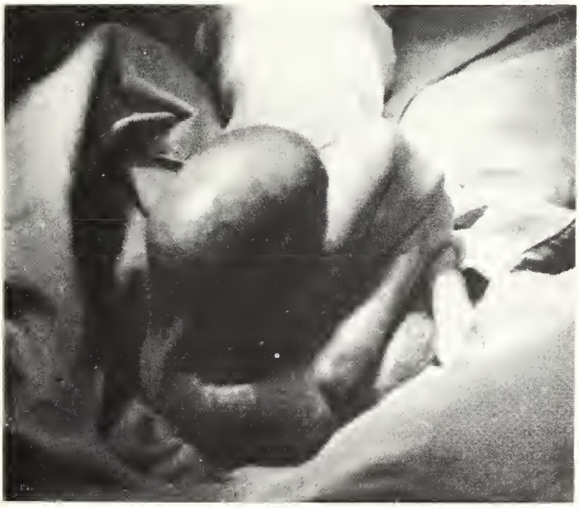

Fig. 1

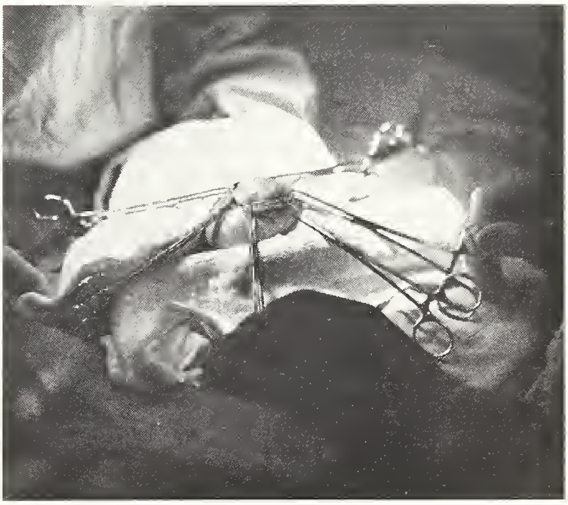

Fig. 2

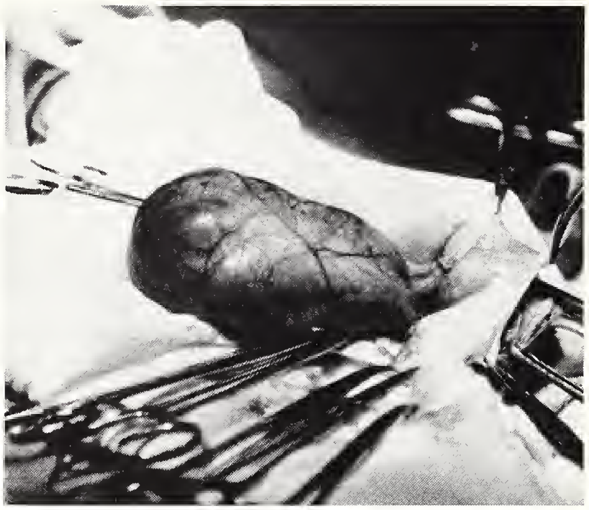

Fig. 3

Step # 3. The hydrocele is delivered. The wall of the sac consists of three layers: external spermatic fascia, internal spermatic fascia and tunica vaginalis. Some vessels are visible on the surface of the external spermatic fascia and can be ligated with 3-0 plain catgut. This layer is incised and separated from the internal spermatic fascia (Fig. 3).

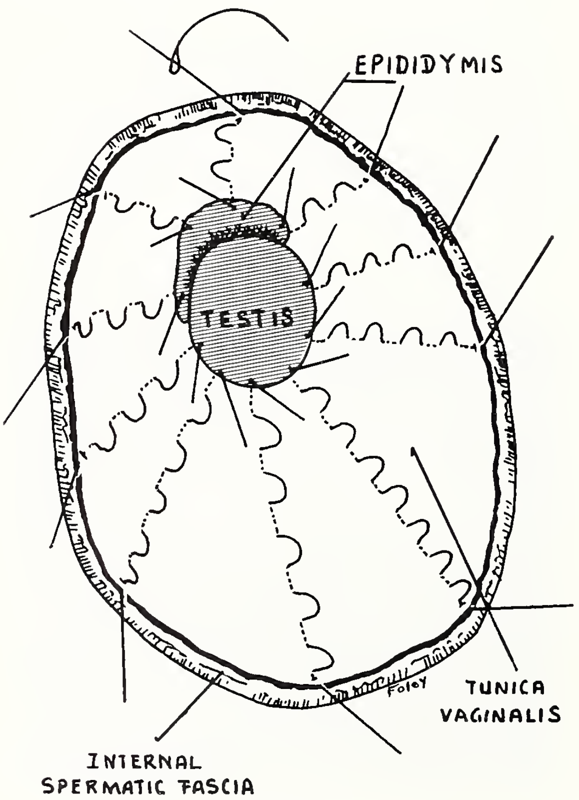

Fig. 5

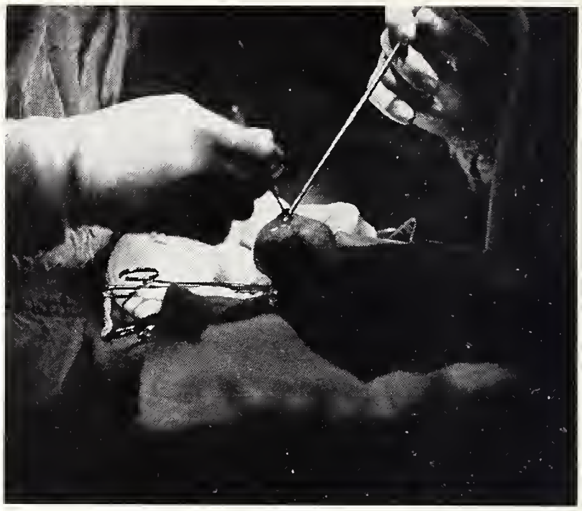

Fig. 4

Step # 4. After the internal spermatic fascia is incised and separated from the tunica vaginalis, the hydrocele sac can be punctured with a scalpel and the fluid aspirated. The opening is enlarged and the testis and epididymis are everted (Fig. 4).

Step # 5. Eight to ten interrupted "gathering" stitches (a process known in needlework) are placed around the testis and epididymis using 3-0 chromic catgut. This is accomplished by picking up the edge of the tunica vaginalis with the needle and then taking small bites of the shiny surface of the tunica at intervals of about one centimeter and working toward the junction of the testis and epididymis. Note that no effort has been made to excise the tunica vaginalis. These interrupted stitches are then tied and cut (Fig. 5).

Step # 6. Fig. 6 shows the testis and epididymis after the sutures are tied and cut. The testis is now returned to the scrotum. This may be difficult unless the internal spermatic fascia has previously been separated from the tunica vaginalis.

Step # 7. The skin and dartos are closed in one layer with everting vertical mattress sutures of 2-0 plain catgut. This allows the oozing to take place on the dressing. Michel clips as recommended by the original author have not been used. Non-absorbable sutures sink into the folds of the scrotal skin making their removal difficult. The dressings are kept in place with a scrotal suspensory (Fig. 7).

SUMMARY

An operation for the surgical cure of idiopathic hydrocele has been presented. It is a modifica-

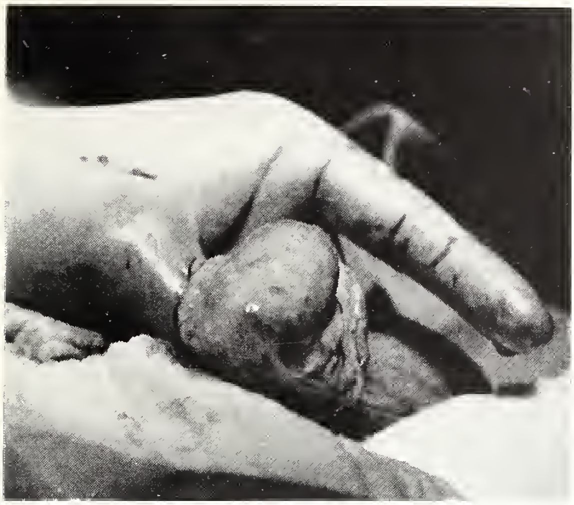

Fig. 6

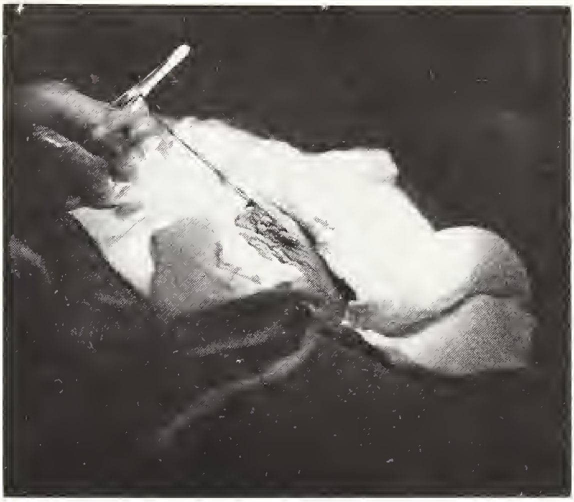

Fig. 7

tion of an operation described by Lord. Emphasis is placed on separation of the internal spermatic fascia from the tunica vaginalis and specific "gathering" sutures applied to the tunica vaginalis.

The three major complications of the previous operations for hydrocele, namely hematoma, strangulation of blood supply to testis and high recurrence rate, have been avoided by this new surgical procedure.

The rationale of this procedure is that the "gathering" of the tunica vaginalis eliminates most of the secreting surface, which is responsible for the hydrocele.

Acknowledgement: The authors wish to express their appreciation to Mr. V. Doyle Ashabranner, medical photographer of the Jefferson Barracks Veterans Administration Hospital, for the photographs and Mr. Frank Foley, medical illustrator of the Cochran Veterans Administration Hospital for the illustration.

Reprints: George C. Wee, M.D.
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Jefferson Barracks
St. Louis, Mo. 63125

The leaves of poison ivy, oak, and sumac usually share the blame for causing an allergic rash and blisters which afflict millions of Americans during warm weather. Actually, the culprit is urushiol, an ingredient found in the sap of all three plants, according to a new folder prepared by the National Institute of Allergy and Infectious Diseases.

Urushiol is a potent substantance affecting seven of every ten persons it touches. It causes an allergic contact dermatitis of a severity which varies with individual sensitivity and amount of exposure. As with all allergies, it is not known why some people react to urushiol while others do not.

Contact with urushiol is necessary to develop an allergic reaction. Touching a plant is the usual method of exposure. But garden tools, work clothes, roving pets, or the smoke from burning plants can provide indirect contact with the substance.

Single free copies of "Poison Ivy, Oak and Sumac," Public Health Service publication No. 1723, may be obtained from the Information Office, National Institute of Allergy and Infectious Diseases, Bethesda, Md. 20014.

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President's Message

Reporting the progress of activities of your MSMA officers and committees would seem to be the chief purpose of the "President's Page." Along that line, the most significant happening since my last report to you was our MSMA presentation to the Ad Hoc Committee of the AMA of our proposal for an in-depth study of the purely medical costs which are included in all estimates that come out of the Department of Health, Education and Welfare and other governmental agencies. We feel that in these government reports the actual picture of purely medical costs and reasons for their increase are largely disregarded and that our charges and other fees are "lumped in" with all other charges to meet the propaganda needs of whomever happens to be publishing the figures. Consequently, the doctors often are blamed for the escalation of the entire medical cost picture. As far as we can determine, no independent study of our costs and pricing has been made. This study, if funded, will be made by an independent researching group at the University of Missouri.

Of course, many of you will recognize that there are dangers in this sort of study, but the facts need to be known so that we can more logically set our course in the coming critical years. In other words, we need to get a good look at ourselves so that we can deal with factual material and attempt to make needed corrections where they are indicated.

We were more or less happy with the one communication received following this page a month ago. We are happy because it means someone read the page, but less so because the writer pointed out that, even though we may have achieved a minor victory with the Welfare Department, we are still coming more and more under governmental control. I think we have to accept the fact that, under present trends, everyone is feeling the hand of the government, and the only way to change this problem is to change the trend, which our profession cannot do alone. Meanwhile, to be able to talk with those who would "take us over" and, at least, have our views heard and even acted upon is still a plus.

David N. Kerr, M.D.

Finally, I had lunch the other day with the Deans, all very fine gentlemen, of our three medical schools when I presented to them their AMA-ERF checks. The subject of discussion at the informal luncheon was "Medical Education." The general theme stated that private schools all over the country are in trouble, financially and faculty-wise, and many may soon be out of business. This comes in the face of the shortage of physicians. Of course, new schools are needed and some are under way. If, on the other hand, we lose some of our best schools, the problem remains. Significantly, a school opening its doors next fall will not place many new physicians into practice for at least six, and probably eight or ten, years. There is another problem that requires study.

Woman's Auxiliary

Many of us are excited about the AMA Auxiliary's 45th Annual Convention to be held in San Francisco on June 16-20. Let me give you a few of the reasons why you should encourage your wife to attend the convention sessions. This is where she will become better informed on Auxiliary work and make many new friends from all of the 50 states. She will be so proud to be a part of this great organization of doctors' wives.

Mrs. E. F. Butler, President

Highlighting the four-day session will be the new mobile demonstration unit called "Homemaking Unlimited." This five-ton coach, sponsored by the School of Home Economics of the University of Nebraska, shows handicapped housewives how to be self-reliant homemakers despite physical limitations. During the convention, the unit will be displayed on Powell Street, across from the St. Francis Hotel.

The Monday luncheon will honor the leaders of women's volunteer organizations throughout the United States. Featured speaker will be Henrik L. Blum, M.D., Clinical Professor of Community Health Planning, University of California School of Public Health. Dr. Blum will discuss "Program Planning and Implementation."

Milford O. Rouse, M.D., AMA President, will be the guest speaker at the Tuesday, June 18, luncheon honoring the National Auxiliary Past-Presidents and AMA Officers, Trustees and wives. At this time, Mrs. Ritter, National Auxiliary President, will present the Auxiliary's contribution to the American Medical Association Education and Research Foundation. Last year's gift totaled $384,649.

The Tuesday afternoon meeting will feature a program relating to state publications by the Communications Committee. Following this program, films, including several on sex education, drug abuse, physical fitness and nutrition, will be shown during the remainder of the afternoon. This new feature will provide Auxiliary members with a catalog of available health education materials to be used in conjunction with existing Auxiliary programs.

On Sunday, June 16, the Auxiliary will hold a reception for the President, Mrs. Karl F. Ritter of Lima, Ohio and President-Elect, Mrs. C. C. Long of Ozark, Arkansas, from 5 PM to 7 PM.

The Auxiliary also will sponsor a program of daily activities for the pre-teens and teenagers of Auxiliary members and guests. Lunch in Chinatown and a cable car ride are among the events being considered.

EDITORIALS

CLOUDS ON THE HORIZON

In the summer of 1966, I was a member of a clinical tour sponsored by the University of Southern California visiting medical centers in England, Norway, Sweden, Denmark, Russia, Czechoslovakia and France. Since Medicare was imminent in the U. S., a representative of the Government Medical Service in each country was asked to outline their service to the group.

In the countries visited, only in France had the physicians on a national scope been able to retain their private identity with direct payment to the physician for services with reimbursement of the patient later from the government.

The liberals in Washington are unhappy with the reimbursement formula for Medicare and will make every effort in the years to come to change it to direct payment to physicians by government so they can control medical practice. Whoever pays the piper calls the tune.

In any scheme of governmental medicine, at the outset government will be liberal to gain acceptance and only begin to apply the screws when necessary to fit current expense to current appropriations. With all government services battling for their share of the tax pie and with persistent inflation of the dollar inexorably increasing cost of all services, it will only be a few years until a strong move will appear to either set a fixed fee schedule or directly employ physicians in the national health scheme.

While Medicaid probably can never be on a reimbursement formula, since theoretically the welfare recipient has no resources to make direct payment to the physician, abolishment of the reimbursement formula for Medicare generally must be battled to the death. If the importance of this feature were fully appreciated by physicians, they would be loath to ever accept an assignment.

While we now have a very sympathetic administration of Medicaid in Missouri, the law requires that the outgo in payments must be kept within the appropriations, that fees be "reasonable" and these facts of life must be appreciated by physicians and redress for lack of funds be directed to the proper agency, the Legislature, and not the administrative agency, the Welfare Department.

As the United States moves to the left, Russia moves to the right. We were surprised to hear in Leningrad that physicians of professorial rank were allowed private practice on off hours and to accept payment for their services from patients.

AVERY P. ROWLETTE, M.D.
Moberly

TOO MUCH TO ASK?

Several articles appeared in Kansas City newspapers in coverage of the 1968 Missouri State Medical Association Meeting the latter part of March. *The Kansas City Times* on Friday, March 29, 1968, headed one article, "Medical Officer Is Critical of Fees" with the sub-head, ". . . Declares Physicians Must End Abuses." In the body of the article, Hector Benoit, Jr., M.D., is quoted, "There are a few people practicing medicine almost exclusively for the money," "They are charging outlandish fees and even worse, under the guise of so-called quality medical care, are overdiagnosing and overtreating patients in an abysmal manner." I think it is of interest that Dr. Benoit used the term, *"a few,"* and, yet, the headline indicates he is critical of *all.* That there are *a few* physicians who have abused Medicare and Medicaid charges none of us can deny—certainly there must be some who are conscientious-less parasites, but these must be a very small percentage of practicing physicians. We all believe, I think, as does Dr. Benoit, that the profession, through its county and state societies, should properly deal with the evil-doers. I, personally, do not know of this practice of over-charging, over-diagnosing and over-treating of patients in this county. If I did, should it or should it not be my duty to ask the grievance committee to function?

This is probably much-ado-about nothing, inasmuch as the same day in the evening paper, *The Kansas City Star,* there appeared an article lauding the doctors of Missouri for their splendid cooperation in the Medicare and Medicaid programs; "that Missouri doctors are co-operating splendidly and that only a few are trying to circumvent the intent and provisions of the two programs."

Perhaps it is too much to ask newspaper personnel, editors and reporters to practice their profession with the same honesty and diligence for perfection that we, and others, ask of us.

H. B. RAPP, M.D., President
Cape Girardeau County Medical Society
—Cape County Journal

POT, PILLS AND PURGATORY

It is with a distinct sense of relief that I note references to LSD in the medical literature are declining at a rapid rate. The torrent of reports of "bad trip," dire predictions of genetic modifications of the race and scholarly opinions on the value of consciousness-expanding drugs has been replaced by an occasional reference to the hallucinogenic affect of morning glory seeds on guinea pigs.

The position of LSD in the local community has been most peculiar. Many frenetic opinions as to the widespread nature of its use in this community could be garnered without difficulty. However, actual evidence of its use was hard to come by. Atypical reactions ("bad trips") were apparently not to be found, which again would be unusual if its use was as widespread as reported, since a noticeable number of adverse reactions would be expected with any widespread degree of usage. One reporter (apparently reliable) advised that adverse LSD reactions were not seen because the product which appeared on the local scene had been cut with benzedrine to the place where the individual had a benzedrine, not an LSD, reaction.

So, acid appears to be on its way out. At least, it is not fashionable any more and references to it continue to decrease drastically.

However, we are not to get off scot-free. Other substances like STP and DMT continue to make their appearance and give a new thrill to already drug-sated sensation-seekers. And the true *aficionado* has discovered that the old art of "joy popping" extended close to its ultimate can bring still another unique sensation.

In the meantime, those individuals who have been injured by LSD will have to make their way through the purgatory of rehabilitation and, hopefully, re-entry into society. As the LSD cripple contemplates the psychodelic scene, new toxins replace LSD, while the use of some of the older substances is refined. Apparently, a certain segment of our population will continue to play Russian roulette with an ever expanding spectrum of noxious substances in an effort to invigorate their jaded senses. We will continue to pick up the pieces after each new drug entry makes its way across the scene leaving an inevitable residue of crippled minds and bodies.

Anyone for a little black box?

GEORGE J. LYTTON, M.D.
Member, Editorial Board
Greater Kansas City Medical Bulletin

DEATH BY SURFEIT

Accounts of the day give the cause of death of several of the Plantagenet kings of England as "a surfeit," other evidence leading to the idea that roast beef and stout English ale played a role in said surfeit. Baudelaire defined decadence as "the consuming in flames of races exhausted by their capacity for sensation," although that hippie of the supposedly placid world before the guns of August spoke was not talking about any particular historical period.

What brings these items to mind is a story in the current news about the sudden great popularity of amplification equipment for all sorts of musical instruments. Apparently it is now possible to buy trumpets, saxophones and even harpsichords with built-in amplifiers, their attractiveness supposedly stemming from the popularity of the electric guitar. As outlined in our recent editorial entitled "Decibellic Pollution," the threat of inundation by noise is as real as that of inhaling poison and drinking poison. Any physician who has attended a teen-age dance in recent years cannot but be impressed by the din. Now it seems that creeping amplification will attack us in more sedate surroundings. How unromantic to have some future generation read that in our decadence we died of a surfeit of amplified arpeggios. Better to go full of roast beef!

North Carolina *Medical Journal*

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Fifty-three physicians attended the dinner and meeting of the Buchanan County Medical Society on April 3 in St. Joseph. This was the annual April meeting which features a program on Cancer. This year's speaker was William E. Larsen, M.D., Associate Professor of Medicine at the University of Kansas Medical Center, who gave an illustrated talk on the "New Look in the Management of Lymphoma." He was introduced by Dr. Ernest E. Weinand, program chairman.

The program was sponsored by the Buchanan County Unit of the Missouri Division of the American Cancer Society. Mr. Richard Knox, Northwest Missouri field representative for the Cancer Society and director of the Buchanan County Unit, was a guest at the meeting.

Dr. Berwyn H. Moen, president, presided at the meeting and business session.

Owen W. D. Craig, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society meeting was held on April 9 in Lexington with 22 members and guests present.

Following the dinner, the meeting was turned over to the Woman's Auxiliary who presented a program in honor of the doctors on Doctor's Day. Each member of the Auxiliary presented a particularly interesting facet in her doctor's life. Pictures were shown to portray that particular period in the doctor's life and then the doctors were presented with red carnations.

Following the program, President Franklin Crozier presided at the business meeting which primarily consisted of a discussion of some of the problems being encountered with Medicare and Medicaid and the changing program of Blue Shield. No specific action was taken on any of these subjects.

Following the discussion, the meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

Members of the West Central Missouri Medical Society give their attention to the speaker of the evening at their meeting with doctors of veterinary medicine.

The West Central Missouri Medical Society was held in Nevada on April 11. This was the joint meeting at which the doctors of medicine and their wives met with the doctors of veterinary medicine and their wives.

We were pleased to have as our guests Dr. William Allen and Dr. Sherwood Baker from the University of Missouri Medical Center, Mr. Don Brummall from the MSMA Headquarters Office and Mr. Norman Garton and Mr. Ron Brown, senior students from the School of Veterinary Medicine.

The meeting was called to order by Dr. R. B. Wray, president, who introduced the special guests for the evening. A letter from Dr. Blumm, president of the Veterinary Medical Association was read. Then, Doctor Wray presented the speaker for the evening, Dr. Frederick Oehme from the School of Veterinary Medicine.

Dr. Oehme presented a beautifully illustrated talk on the topic, "Plants, Pets and Children." This interesting presentation concerned some of the toxic flowers, plants and weeds found in and around most of our homes. The program was very well received and enjoyed by all present.

Members of the Society met for a business session following the scientific presentation. Minutes of the preceding meeting were read and approved. Drs. Allen and Baker reported on some of the problems and new procedures at the University of Missouri Medical Center. Mr. Brummall and Doctor Wray reported on the events at the MSMA meeting and numerous activities at the state headquarters level. The importance of closer liaison between the members of the medical profession and the members of the state legislature was stressed.

Correspondence received by the secretary was presented and discussed, but no formal action was required. The Program Committee announced that the next meeting of the Society would be at Harrisonville on May 9.

There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

NINTH DISTRICT

COUNCILOR
E. A. STRICKER, M.D., ST. JAMES

South Central Counties Medical Society

(Left to right) Dr. Rollin H. Smith and Mrs. Smith of West Plains and Mrs. Claude W. Cooper and Doctor Cooper of Thayer at the speaker's table. Doctor Smith is secretary and Doctor Thayer is program chairman for South Central Counties Medical Society.

The South Central Counties Medical Society met on April 24 in West Plains. Dr. Claude W. Cooper of Thayer, president, presided and introduced the guest speaker, Mr. Don Brummall, MSMA Administrative assistant. Mr. Brummall discussed medical legislation, reviewed past legislation and suggested possible legislation that can be expected in the next session of the Legislature in January, 1969. He also explained his duties in the MSMA headquarters office and discussed organized medicine on the state and national levels.

Rollin H. Smith, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area County Medical Society

The Mineral Area Medical Society met on April 4 in Farmington. The following members were present: Drs. C. H. Appleberry, Tom Burcham, Charles Chastain, Norma Dunning Farmer, William Ford, Emmett Hoctor, Retus Osborn, Kirby Turner and George L. Watkins, Jr. Guests attending the meeting were Drs. R. Wolf, A. Wolf, Matthews, C. Arguelles, Pichardo, Garcia, Channabasappa and Fallet.

The scientific program for the meeting was presented by Dr. George L. Hawkins, Jr. of Neurosurgical Associates, Inc., St. Louis. His subject was "Changes in the Eyes in Relationship to Neurological Diseases." His presentation included colored slides. The knowledge of this subject is very serviceable in the practice of medicine.

After the scientific program, the Society held a business session. It was agreed that the May meeting of the Society be held with and at the time of the Two-day Symposium to be conducted by Dr. Douglas Goldman, assistant clinical professor of psychiatry at the University of Cincinnati, on May 25-26 at State Hospital No. 4. The physicians of this Southeast Missouri District, which is covered by Missouri State Hospital No. 4 for psychiatric inpatient and outpatient treatment, were invited to attend this meeting. The majority of these counties are in the Tenth District and Dr. W. D. English, Councilor, is cooperating in this endeavor.

William Ford, M.D., *Secretary*

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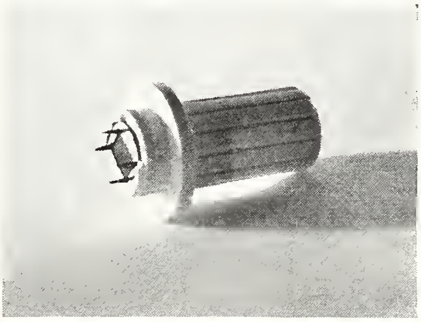
with every physical examination.



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New Members

Robert W. Allen, M.D., Rt. 2, St. Charles Rd., Columbia, has become a member of Boone County Medical Society. Dr. Allen is a native of New Britain, Conn., received his preliminary education at Springfield College and his M.D. degree at the Medical College of Virginia in 1962. He specializes in physical medicine and rehabilitation.

Philipp R. Amlinger, M.D., 1118 W. Rollins, Columbia, has become a member of Boone County Medical Society. Dr. Amlinger is a native of Bremm/Mosel, West Germany, received his preliminary education at the Humanistic Gymnasium and his M.D. degree at the University of Munich in 1936. He specializes in general medicine, surgery, aviation medicine and community health.

Carlos E. Muniz, M.D., 116 Tracy Dr., Columbia, has become a member of Boone County Medical Society. Dr. Muniz is a native of Havana, Cuba, received his preliminary education at Vedado Institute, and his M.D. degree at the University of Havana in 1948. He specializes in psychiatry.

Ruheri Perez-Tamayo, M.D., Ellis Fischel State Cancer Hospital, Columbia, has become a member of Boone County Medical Society. Dr. Perez-Tamayo is a native of Tampico, Tamaulipas, Mexico, received his preliminary education at National University Preparatory School and his M.D. degree at the National University

Bill O'Malley

". . . and if it weren't for the eight I took on the 12th hole, I would've had a 92!"

in 1952. He specializes in radiology and radiotherapy.

Severo M. Racadio, M.D., 117 E. Washington, Kirkwood, has become a member of St. Louis County Medical Society. Dr. Racadio is a native of Legaspi Albay, Philippines, received his preliminary education at Letran College and his M.D. degree at Santo Tomas University in 1954. He is in general practice.

Arthur Sakamoto, M.D., 915 N. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Sakamoto is a native of El Centro, Calif., received his preliminary education at the California Institute of Technology and Ohio University and his M.D. degree at the University of Rochester in 1950. He specializes in internal medicine.

John A. Sopuch, M.D., 4660 Maryland, St. Louis, has become a member of St. Louis Medical Society. Dr. Sopuch is a native of Cleveland, Ohio, received his preliminary education at Xavier University and his M.D. degree at St. Louis University in 1963. He specializes in obstetrics and gynecology.

Harold A. Vinson, M.D., 107 Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. Vinson is a native of Alva, Okla., received his preliminary education at Oklahoma A & M and his M.D. degree at Oklahoma University in 1955. He specializes in radiology.

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Each tablet contains:

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Was a victim of
intestinal cramps

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...adsorbs irritants with kaolin,
and protects intestinal mucosa

In elderly patients it is particularly important to stop the diarrhea fast. Parepectolin helps you control diarrhea promptly and gain the patient's confidence until etiology has been determined.

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Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) .... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin .... (2½ grains) 162 mg.
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Usual Adult Dose: One or two tablespoonfuls three times daily.

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In Memoriam

Madison, Waite H., M.D., Kansas City, a graduate of the University of West Tennessee, 1915; member of Saline County Medical Society; aged 74; died July 3, 1967.

Green, Daniel M., M.D., St. Louis, a graduate of New York Medical College, 1938; member of St. Louis Medical Society; aged 58; died March 16, 1968.

Shreffler, Algie R., M.D., Tavernier, Florida, a graduate of St. Louis University, 1915; member of St. Louis Medical Society; aged 78; died April 1, 1968.

Jarvis, James A., M.D., Kansas City, a graduate of Washington University, 1932; member of Jackson County Medical Society; aged 63; died April 4, 1968.

Beckemeyer, William A., M.D., Sedalia, a graduate of St. Louis University, 1908; member of Pettis County Medical Society; aged 83; died April 5, 1968.

Edmonds, Devilla D., M.D., Leawood, Kans., a graduate of Rush Medical College, 1914; a member of Jackson County Medical Society; aged 79; died April 6, 1968.

Sweets, Henry H., Jr., M.D., Hannibal, a graduate of the University of Louisville, 1937; member of Marion-Ralls-Shelby County Medical Society; aged 58; died April 11, 1968.

O'Malley, Eugene J., M.D., St. Louis, a graduate of Jefferson Medical College, 1920; member of St. Louis Medical Society; aged 73; died April 12, 1968.

Grauerholz, James W., M.D., Kansas City, a graduate of the University of Kansas, 1922; member of Jackson County Medical Society; aged 90; died April 15, 1968.

May, James W., M.D., Kansas City, a graduate of University of Kansas, 1937; member of Jackson County Medical Society; aged 56; died April 18, 1968.

Reilly, Leo J., M.D., St. Louis, a graduate of St. Louis University, 1924; member of St. Louis Medical Society; aged 72; died April 27, 1968.

Lee, George C., M.D., Kansas City, a graduate of St. Louis University, 1924; member of Jackson County Medical Society; aged 71; died April 29, 1968.

CLASSIFIED ADS

PHYSICIAN—Licensed in Missouri. Emergency room coverage for 250-bed general hospital, located in South St. Louis. Excellent salary and working conditions. Call collect or write George P. Casey, Administrator, St. Anthony's Hospital, 3520 Chippewa, St. Louis, Mo. 63118, phone AC 314-865-1100.

FOR SALE—Doctors' office building and equipment. Active practice. Retiring. St. Louis County, Mo. Contact Box 344, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

PHYSICIANS NEEDED—General practitioner, with particular interest in psychiatry or internal medicine. Equal opportunity employer. Apply Chief of Staff, VAH, Jefferson Barracks, Missouri 63125.

UNUSUAL OPPORTUNITY—Large, established general practice of 15 years, due to untimely death of young physician. Includes large OB practice. Office in suburban area, nine miles from downtown Kansas City; two blocks from hospital with open staff. Completely equipped—laboratory, bookkeeping records, etc. Allergist and another physician in building. Area urgently needs continued services of a GP. Contact Box 347, c/o Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

WANTED—General practitioner or internist and an OB-Gyn man for a well-established, four-man group practice in an old, historical town serving a population area of approximately 20,000. We have a fully accredited, 78-bed hospital with laboratory and radiology service. Write to Medical Clinic, Lexington, Mo. 64067.

FOR SALE—F.O. Machine, Alpine quartz mercury lamp, heat lamp, Spencer Microscope, projects chart, test lense set and trial frame. D. E. Blacklock, M.D., King City, Mo. 64463.

COUNTRY PRACTICE FOR SALE—by M.D. retiring for health reasons. Seven-room, first-floor office building with new furnace, new air-conditioner and humidifier. X-ray with flouroscope, screen, view box, lead storage for films. Photo electric, colorimeter. Instruments for minor surgery and OB. References exchanged. Practice located within 25 miles of Kansas City. Contact Box 340, Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

INTERNIST—Established four-man group practice in 20,000 population area needs internist urgently. Own clinic building adjacent to new 100-bed, accredited hospital. Salary $20,000 first year, then equal partnership, Lebanon Medical Center, Harwood at Chestnut, Lebanon, Mo. 65536.

WANTED—General practitioner to work with established surgeon in the metropolitan St. Louis area. Salary first year, then partnership if desired. I have staff privileges at St. Josephs Hospital in St. Charles and St. John's Mercy in St. Louis. Contact Box 341, c/o Missouri State Medical Association, 515 East High Street, Jefferson City, Mo. 65101.

PHYSICIANS—Challenging position in modern hospital emergency unit where main responsibilities are to see emergencies, provide health services to employees and related duties. Baptist Memorial Hospital was opened in 1960 and has 410 beds with approximately 14,000 patients seen annually in the emergency room. The program of compensation is very attractive. Kansas City is "on the move" with a metropolitan area of over 1,000,000 population. There are many activities in the cultural, sports and education realms, as well as much opportunity for recreation. For additional information write: George P. Williams, M. D., Baptist Memorial Hospital, 6601 Rockhill Rd., Kansas City, Mo. 64131, OR call Mr. Hamilton V. Reid, Administrator: 816 Emerson 3-2882.

PHYSICIANS—Full or part time, for Outpatient Services, John J. Cochran Veterans Hospital, St. Louis, OLive 2-4100, extension 401. Nondiscrimination in employment.

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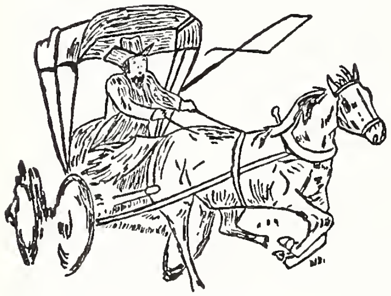
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

The National Board of Medical Examiners issued 272 certificates in 1927, this being the number of physicians who passed the Board's examinations during the calendar year. Twenty of the certificates were issued to graduates of the Washington University School of Medicine. The certificate of the National Board is now being accepted by 37 states, including Missouri.

The first annual "President's Night" of the St. Louis Medical Society was auspiciously inaugurated on April 10 with Dr. William Allen Pusey of Chicago, President of the American Medical Association in 1924, as the speaker for the evening. Doctor Pusey spoke vigorously against the invasion of the medical field in executive capacities by persons expert in philanthropy and sociology, but not in medicine. He deprecated the barring of physicians, "Directors of every sort of organization," from great corporations to churches from hospital boards.

The 25th Anniversary of the 1903 class of Marion-Sims-Beaumont Medical College, the last to graduate before the College became St. Louis University Medical School, was observed with a reunion and dinner at the University Club in St. Louis.

TWENTY-FIVE YEARS AGO

H. L. Kerr, M.D., Crane, gave his presidential address at the 86th Annual Session of the MSMA in St. Louis on April 18, 1943. He said, "The Missouri State Medical Association has attained the dignity of age as it has grown from a small group of founders in 1857 to its present stature of 3,283 members. Now today, beset as the medical profession is from every side by the socially-minded, the cultist and the politician, it is small wonder that many, after pondering the trends, fear for the future of American medicine. The medical profession of Missouri, which today (in spite of the fact that more than 1,000 of its number are with the fighting forces of the country) is carrying forward the best traditions of centuries of medical progress, simply does not feel bound to kneel before the fancies of social reformers whose only idea of progress is the steady growth of bureaucracy."

TEN YEARS AGO

Marian B. Folsom will be replaced as Secretary of the Health, Education and Welfare Department on August 1 by Arthur S. Flemming. Mr. Folsom, who resigned for personal reasons, has been a voice of moderation in the key agency that is so vital to the nation's physicians.

Money woes have raised a real threat in two Missouri tax-supported hospitals. One is the General Hospital for indigents in Kansas City. It is feeling the hot breath of an economy wave as Mayor H. Roe Bartle seeks to solve an ever-mounting deficit. The second is the St. Louis State Hospital for mental patients that recently suffered a $200,000 cut in its salary allotment from the state. Gov. James T. Blair made the slash in his efforts to help balance the state's budget.

The Missouri State Surgical Society held its organizational meeting in St. Louis on April 14 with a charter membership of 100. Officers of the new society are Drs. Claude J. Hunt, Kansas City, president; J. William Thompson, St. Louis, president-elect; Durward G. Hall, Springfield, vice-president; and John A. Growdon, Kansas City, secretary-treasurer.

Dr. Arthur B. Smith, Kansas City, was elected president of the Research Clinic medical staff at the annual election of officers on April 7. Drs. Revis C. Lewis, Warren F. Wilhelm and Ira T. Smith, all of Kansas City, were named vice-president, secretary and treasurer, respectively.

Minutes of the
110th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates
Muehlebach Hotel, Kansas City
March 28-31, 1968

FIRST SESSION

Thursday, March 28, 1968

The First Session of the House was called to order at 3:00 PM in the Colonial Ballroom with Paul F. Max, Speaker, presiding. The following officers, councilors and delegates were present during the 110th Annual Session:

Officers

President	Hector W. Benoit, Jr., Kansas City
President-Elect	David N. Kerr, St. Louis
Vice-President	Cecil G. Leitch, Blue Springs
Vice-President	Kenneth Glover, Mt. Vernon
Vice-President	Martyn Schattyn, St. Louis County
Secretary	John I. Matthews, Jefferson City
Treasurer	Max S. Franklin, St. Louis
Speaker of the House	Paul F. Max, St. Louis
Vice-Speaker of the House	E. D. Imes, Maryville

Councilors

1st District	Joseph L. Fisher, St. Joseph
2nd District	Lysle M. Bach, Hannibal
3rd District	Walter T. Gunn, St. Louis
4th District	Robert A. Mayer, St. Louis County
5th District	James C. Cope, Columbia
6th District	Rolla B. Wray, Nevada
7th District	Gerald L. Miller, Kansas City
8th District	Doyle C. McCraw, Bolivar
9th District	E. A. Stricker, St. James
10th District	W. D. English, Cardwell
Immediate Past President	Byron M. Stuart, Boonville

DELEGATES

First District

Buchanan	John N. Martin, St. Joseph
Buchanan	Richard V. Riddell, St. Joseph
Buchanan	Ernest E. Wadlow, St. Joseph
Clay	James R. Allan, Excelsior Springs
Clay	Paul Revare, Kansas City
Clay	Dean F. Werner, N. Kansas City
Clinton	P. T. Luckenbill, Plattsburg
Grand River	
Carroll	John H. Platz, Carrollton
Grundy	Chester L. Clark, Trenton
Harrison	Willard Ellsworth, Cainsville
Linn	John R. Dixon, Brookfield
Livingston	Donald M. Dowell, Chillicothe
Mercer	W. B. Atcheson, Trenton
Northwest	
Gentry	Troy O. Morgan, Jr., Albany
Nodaway	E. D. Imes, Maryville
Worth	Frank B. Matteson, Grant City
Platte	I. W. Kimball, Kansas City

Second District

Chariton-Macon-Monroe-Randolph	Floyd A. Barnett, Paris
Chariton-Macon-Monroe-Randolph	Donald E. Eggleston, Macon
Chariton-Macon-Monroe-Randolph	Avery P. Rowlette, Moberly
Chariton-Macon-Monroe-Randolph	Daniel D. Stuart, Brunswick
Lewis-Clark-Scotland	Landis Y. Davis, Canton
Pike	Charles H. Lewellen, Louisiana

Third District

St. Louis City	Archibald M. Ahern, St. Louis
St. Louis City	W. E. Allen, Jr., St. Louis
St. Louis City	Donald A. Bindbeutel, St. Louis
St. Louis City	A. G. Boldizar, St. Louis
St. Louis City	Stephen Bowen, St. Louis
St. Louis City	Richard V. Bradley, St. Louis
St. Louis City	Edward M. Cannon, St. Louis
St. Louis City	Richard J. Dames, St. Louis
St. Louis City	Dallas J. Dyer, St. Louis
St. Louis City	John P. Eberle, St. Louis
St. Louis City	Joseph C. Edwards, St. Louis
St. Louis City	Edwin C. Ernst, Sr., St. Louis
St. Louis City	Max S. Franklin, St. Louis
St. Louis City	Paul Friedman, St. Louis
St. Louis City	Charles R. Gulick, St. Louis
St. Louis City	James N. Haddock, St. Louis
St. Louis City	George L. Hawkins, Jr., St. Louis
St. Louis City	Charles A. Jost, St. Louis
St. Louis City	Robert W. Kelley, St. Louis
St. Louis City	Edward D. Kinsella, St. Louis
St. Louis City	William F. Kistner, St. Louis
St. Louis City	G. Lynn Krause, Jr., St. Louis
St. Louis City	Lawrence Lawton, St. Louis
St. Louis City	Everett R. Lerwick, St. Louis
St. Louis City	J. Otto Lottes, St. Louis
St. Louis City	Paul F. Max, St. Louis
St. Louis City	Arthur W. Neilson, St. Louis
St. Louis City	Charles A. Nester, St. Louis
St. Louis City	Lawrence W. O'Neal, St. Louis
St. Louis City	Earl A. Powell, St. Louis

St. Louis City	George B. Rader, St. Louis
St. Louis City	Hubert A. Ritter, St. Louis
St. Louis City	John S. Sciortino, St. Louis
St. Louis City	Charles S. Sherwin, St. Louis
St. Louis City	Joseph B. Vacca, St. Louis
St. Louis City	Herbert C. Wiegand, St. Louis
St. Louis City	Tyrus D. Winter, St. Louis
St. Louis City	James M. Whittico, St. Louis
St. Louis City	Richard W. Yore, St. Louis

Fourth District

Franklin-Gasconade-Warren	W. R. Richardson, Union
Franklin-Gasconade-Warren	George Workman, Hermann
Jefferson	Vincente D. Deles, Crystal City
Lincoln-St. Charles	Louis P. Hetlage, Troy
Lincoln-St. Charles	Paul H. Rother, St. Charles
St. Louis County	C. Read Boles, St. Louis
St. Louis County	Rudolph E. Catanzaro, St. Louis
St. Louis County	Edmund V. Cowdry, Jr., St. Louis
St. Louis County	Edgar W. Davis, St. Louis
St. Louis County	C. Howe Eller, St. Louis
St. Louis County	Allen P. Klippel, St. Louis
St. Louis County	Paul Miles, St. Louis
St. Louis County	Charles Miller, Jr., St. Louis
St. Louis County	Martyn Schattyn, St. Louis
St. Louis County	Richard A. Sutter, St. Louis
St. Louis County	Melvin M. Schwartz, St. Louis
St. Louis County	Miles Whitener, St. Louis
St. Louis County	Paul Whitener, St. Louis

Fifth District

Audrain	Benjamin N. Jolly, Mexico
Boone	Robert L. Jackson, Columbia
Boone	John T. Logue, Columbia
Boone	Leroy J. Miller, Columbia
Boone	William B. See, Columbia
Boone	Hugh E. Stephenson, Jr., Columbia
Boone	John H. Walters, Columbia
Callaway	James K. Ritterbusch, Fulton
Cole	G. Donald Shull, Jefferson City
Cooper	Byron M. Stuart, Boonville
Howard	William J. Shaw, Sr., Fayette
Morgan	J. Loren Washburn, Versailles

Sixth District

Henry	W. D. Bradshaw, Clinton
Lafayette-Ray	Joseph S. Cope, Lexington
Lafayette-Ray	Thomas Cook, Richmond
Pettis	C. G. Stauffacher, Sedalia
Saline	C. A. McBurney, Slater
West Central	
Bates	Charles Lusk, Jr., Butler
Cass	Alfred Eklund, Pleasant Hill
St. Clair	Donald Giesler, Osceola
Vernon	James J. Pascoe, Nevada

Seventh District

Jackson	Raymond B. Anderson, Kansas City
Jackson	Pat A. Barelli, Kansas City
Jackson	R. Allen Chandler, Kansas City
Jackson	Carl H. Brust, Mission, Kansas
Jackson	Robert W. Forsythe, Kansas City
Jackson	Fred D. Fowler, Kansas City
Jackson	John A. Griffith, Jr., Kansas City
Jackson	Ralph Hall, Kansas City
Jackson	Kenneth C. Hollweg, Kansas City
Jackson	John B. Justus, Kansas City
Jackson	John E. Kyger, Independence
Jackson	George J. Lytton, Kansas City
Jackson	Andrew McCanse, Kansas City
Jackson	James R. McVay, Jr., Kansas City
Jackson	Paul W. Meyer, Kansas City
Jackson	Andrew D. Mitchell, Kansas City
Jackson	William C. Mixson, Kansas City
Jackson	Sidney Rubin, Kansas City
Jackson	O. Dale Smith, Mission, Kansas
Jackson	Walter J. Stelmach, Kansas City
Jackson	Harry Statland, Kansas City
Jackson	Charles B. Wheeler, Jr., Kansas City
Jackson	C. Keith Whittaker, Kansas City
Jackson	Paul R. Young, Kansas City

Eighth District

Barton-Dade	Vern T. Bickel, Lamar
Barton-Dade	Lee McNeel, Greenfield
Dallas-Hickory-Polk	O. A. Griffin, Buffalo
Dallas-Hickory-Polk	Evelyn Griffin, Buffalo
Dallas-Hickory-Polk	Ben Koon, Bolivar
Greene	M. D. Bonebrake, Springfield
Greene	James T. Brown, Springfield
Greene	Robert W. Maher, Springfield
Greene	Howard J. McAlhany, Springfield
Greene	F. Thomas Moseley, Springfield
Greene	Stanley S. Peterson, Springfield
Jasper	Ned B. Chase, Jr., Joplin
Jasper	R. R. Cohle, Carthage
Jasper	Robert G. Powell, Joplin
Ozarks	
Barry	Arthur Graves, Mt. Vernon
Lawrence	Kenneth Glover, Mt. Vernon
Stone	Fred Wommack, Crane
Christian	Stanley D. Roper, Ozark
Taney	T. A. Morrison, Aurora
Newton	Leo Taylor, Neosho
McDonald	George Blankenship, Neosho
Webster	Thomas M. Macdonnell, Marshfield

Ninth District

Mid-Missouri	
Dent	B. J. Bass, Salem
Laclede	R. W. Froelich, Lebanon
South Central	
Howell	W. T. Morgan, Jr., West Plains
Oregon	Claude W. Cooper, Thayer
Texas	Joe Wall, Houston
Ozark	Rollin H. Smith, West Plains

Tenth District

Butler-Wayne-Ripley	E. T. Hansbrough, Poplar Bluff
Butler-Wayne-Ripley	B. M. McLain, Poplar Bluff
Butler-Wayne-Ripley	T. Eugene Ruff, Poplar Bluff
Cape Girardeau	Seth Barnes, Cape Girardeau
Cape Girardeau	Edwin K. Burford, Cape Girardeau
Cape Girardeau	Melvin Kasten, Cape Girardeau
Mineral Area	
St. Francois	Charles W. Chastain, Farmington
Washington	Kirby L. Turner, Potosi

Perry-St. Genevieve	A. E. McDermott, Perryville
Semo	
Stoddard	William C. Shell, Sikeston
New Madrid	Charles C. Reeder, New Madrid
Scott	Stephen Parks, Sikeston

The invocation was given by Association President Hector W. Benoit, Jr.

The Chairman of the Credentials Committee, Dr. James R. McVay, Jr., reported that satisfactory credentials had been presented by five officers, ten councilors and 110 delegates.

In the absence of Dr. Gerald Miller, General Chairman of the Arrangements Committee, Dr. Kenneth Hollweg welcomed the Association members and their wives and guests to Kansas City and expressed the hope for a successful convention.

The minutes of the 109th (1967) Annual Session, which were published in the July, 1967 issue of MISSOURI MEDICINE, were approved as published.

The Speaker announced appointment of the following reference committees:

ON REPORTS OF OFFICERS

Kenneth C. Hollweg, Kansas City, Chairman
Ned B. Chase, Jr., Joplin
Miles C. Whitener, St. Louis
Edward M. Cannon, St. Louis
William D. Bradshaw, Clinton

ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

Richard V. Bradley, St. Louis, Chairman
Melvin C. Kasten, Cape Girardeau
C. A. McBurney, Slater
George W. Blankenship, Neosho
Ernest E. Wadlow, St. Joseph

ON MISCELLANEOUS AFFAIRS

C. Read Boles, St. Louis, Chairman
John R. Dixon, Brookfield
William C. Mixson, Kansas City
Leroy J. Miller, Columbia
Earl A. Powell, St. Louis

ON RESOLUTIONS

Avery P. Rowlette, Moberly, Chairman
John P. Eberle, St. Louis
Sidney Rubin, Kansas City
James T. Brown, Springfield
B. J. Bass, Salem

ON MEDICAL EDUCATION AND PUBLIC WELFARE

G. Donald Shull, Jefferson City, Chairman
Eugene T. Hansbrough, Poplar Bluff
C. Keith Whittaker, Kansas City
Louis P. Hetlage, Troy
Hubert A. Ritter, St. Louis

ON NECROLOGY

Troy O. Morgan, Jr., Albany, Chairman
James K. Ritterbusch, Fulton
Floyd A. Barnett, Paris
W. T. Morgan, West Plains
Charles C. Reeder, New Madrid

The Speaker called on Doctor Benoit to deliver the annual President's Message.

(The President's Message is published on Page 525.)

The Speaker then called on Dr. David N. Kerr to present the annual message of the incoming President.

(Dr. Kerr's address is published on Page 527.)

Both Presidential messages were referred to the Committee on Reports of Officers.

The Speaker then invited Mrs. John M. Williams to present the annual report of the President of the Woman's Auxiliary.

(This report is published on Page 529.)

Mrs. Williams' report was referred to the Committee on Reports of Officers.

The Speaker invited Mrs. Marguerite Hubbard, President of the Missouri State Medical Secretaries and Assistants Society, to address the House. Mrs. Hubbard discussed her views concerning the professional and educational advantages gained for both the physician and his medical secretary or assistant by the latter's membership in the Society and urged the physicians to sponsor this membership for their assistants and secretaries.

Mrs. Hubbard's address was referred to the Committee on Reports of Officers.

The Speaker then asked Doctor Benoit to preside at the annual ceremony in which 50 Year Pins are awarded to MSMA members who have completed 50 years in the practice of medicine.

Before making the awards, Doctor Benoit announced that word had been received that Dr. William Riley Gum of St. Louis, who was to have received a pin at the ceremony, had died two days before the Annual Session. The members of the House stood for a moment in silence in tribute to the memory of Doctor Gum.

Doctor Benoit then awarded 50 Year Pins to the following members with the congratulations of the Association for their achievement:

Hugh L. Dwyer, Shawnee Mission, Kans.
Dominic M. Nigro, Kansas City
James A. Tesson, Kansas City
Bennett Y. Alvis, St. Louis
Goronwy O. Broun, St. Louis
Fred W. Teiber, St. Louis
Hugh W. Maxey, Jefferson City

The following MSMA members who qualified for the 50 Year Pins were not present at the ceremony:

Thomas L. Howden, St. Joseph
Hugh Owens, Kansas City
George M. Polk, Kansas City
Charles W. Rose, Kansas City
George F. Cresswell, Potosi
Glover H. Copher, St. Louis
French K. Hansel, St. Louis
Otto V. Lieb, St. Louis
Grover B. Leese, St. Louis
Horace H. Shackleford, St. Louis
Cyril H. Rogers, St. Louis
Sigmund S. Tashma, St. Louis
Topsey H. Whittaker, East Prairie

***(Left to right)* Council Chairman Doyle C. McCraw, President Hector W. Benoit, Jr. and President-Elect David N. Kerr compare notes before the opening of the 1968 MSMA Annual Session.**

The following reports, which were published in the Delegates' Handbook, were noted and assigned to appropriate committees:

REPORT OF THE SECRETARY

The Missouri State Medical Association had 4,076 members as of December 31, 1967. This was an increase of 13 members over the previous year.

MEMBERSHIP CHANGES DURING THE YEAR

Members, January 1, 1967		4,063
New Members admitted during year	175	
Reinstated	7	
Total added	182	
Members dropped during year	22	
Deceased	74	
Transferred to other states	60	
Resigned	13	
Total lost	169	
Net gain		13
Members, December 31, 1967		4,076

The Committee on Nominations, which is appointed by the President from the House of Delegates, must submit nominations for the following offices:

Three Vice Presidents to fill the expired terms of Cecil G. Leitch, Blue Springs; Kenneth Glover, Mount Vernon; Martyn Schattyn, St. Louis County.

A Speaker of the House of Delegates and a Vice Speaker of the House of Delegates to fill the expired terms of Paul F. Max, St. Louis, Speaker; and E. D. Imes, Maryville, Vice Speaker.

Two Delegates and corresponding alternates to the American Medical Association to fill the vacancies created by the expiration on December 31, 1968, of the terms of Delegate, Stanley S. Peterson, Springfield; Alternate, James C. Sisk, Clayton; Delegate, J. Loren Washburn, Versailles; and Alternate, Thompson E. Potter, St. Joseph.

The terms (two years) of the Councilors of the odd numbered districts expire this year. These Councilors are: Joseph L. Fisher, St. Joseph, First District; Walter T. Gunn, St. Louis, Third District; James C. Cope, Columbia, Fifth District; Gerald L. Miller, Kansas City, Seventh District; E. A. Stricker, St. James, Ninth District. Delegates from these districts shall meet during the meeting, prior to the last day, and elect the Councilor for their district. The election shall be certified to the House of Delegates on a prescribed form which will be furnished.

The entire session will be held in Hotel Muehlebach, Kansas City. The House of Delegates will hold its first session on Thursday, March 28, at 3:00 PM, in the Colonial Ballroom. Reference Committees will meet in committee rooms in the hotel. The second session of the House of Delegates will convene at 4:00 PM, Friday, March 29, in the Colonial Ballroom. The final session of the House, a breakfast meeting, will be held in the Colonial Ballroom of the hotel at 7:30 AM, on Sunday, March 31.

Registration facilities will be open on Thursday, March 28, from noon to 4:00 PM; on Friday and Saturday from 8:00 AM to 5:00 PM, and on Sunday from 7:30 AM to 9:00 AM. Registration will be in the Royal Hall of the new Convention Area of the hotel.

John I. Matthews, Secretary

REPORT OF THE TREASURER

The report of the Treasurer is covered in the Financial Statement which appeared in the March issue of MISSOURI MEDICINE. This publication was in the hands of members and county medical societies nearly one month prior to the session, and therefore, it is not repeated here.

Max S. Franklin, Treasurer

REPORT OF THE EXECUTIVE SECRETARY

This has been the first full year of operation of your Headquarters Office from 515 East High Street in Jefferson City. It has been a busy year for the staff in working on projects under the direction of the Council, numerous committees, and Officers of the Association. The first County Medical Society Officers Conference, sponsored by the Public Service Committee, was held in Columbia on November 4 and 5. The success of this conference justifies careful consideration toward making this an annual affair.

The Medical Economics Contract Committee spent many hours in considering matters involving the payment of physicians fees on a usual and customary basis under the Medicaid (Title XIX) law passed by the 1967 Missouri General Assembly. This Committee has cooperated with the Missouri Division of Welfare in their responsibilities for the administration of this new law. Activities of these and other committees are further explained in their reports contained in this booklet of Official Reports to the House of Delegates.

Your executive staff has continued to work diligently to establish effective communication and liaison with members of the State Legislature, key officials in the executive and administrative state offices and organizations with mutual interests.

A change in our staff personnel occurred on September 1 when, to our regret, Allen Smith left us to become Executive Secretary of the Jackson County Medical Society. Mr. Don Brummall joined the staff at that time and has been spending more and more time visiting County Medical Societies over the state.

The members of your Headquarters staff have worked hard in assisting with the detailed preparations for this Annual Meeting under the direction of the Committee on Scientific and Postgraduate Work.

Raymond McIntyre, Executive Secretary

REPORT OF THE COMMITTEE ON SCIENTIFIC AND POSTGRADUATE WORK

Your Committee believes that the 1968 MSMA Annual Meeting scientific program will be attractive to the entire membership. There will be two and three scientific sessions running concurrently which offers a choice of subject matter presentations throughout the meeting. In addition, an outstanding program for Friday morning, March 29, "Government in Medicine" has been arranged by the Association's Committee on Medical Economics.

The Committee is truly appreciative of the splendid cooperation of other organizations, specialty societies and specific committees of the Association who have developed and will present special parts of this year's Annual Meeting program.

Special thanks go to the following for their assistance: Missouri Heart Association; Missouri Regional Medical Program; Missouri Chapter, American College of Chest Physicians; Missouri State Surgical Society; Missouri Chapter, American Academy of Pediatrics; Missouri State Committee on Trauma of the American College of Surgeons; Missouri Academy of Psychiatry; Missouri Society of Internal Medicine; University of Missouri School of Medicine, Section of Physical Medicine and Rehabilitation; Department of Surgery, Washington University School of Medicine; Department of Radiology, St. Louis University School of Medicine; MSMA Committees on Medical Economics, Maternal Welfare, and Medicine and Religion.

Exhibit space for 56 technical exhibits has been arranged to make available to physicians attending the 1968 Session, information on drugs, materials and equipment used in the practice of medicine.

The Committee, with the assistance of the Executive Office staff, has continued throughout the year to assist County Medical Societies in planning joint meetings and in obtaining speakers for such meetings as well as for regular component society meetings.

A good number of County Medical Societies have held joint meetings during the year with other organizations, such as: local bar associations, dental societies and veterinary groups. The Committee compliments these particular medical societies on their initiative in this respect and recommends similar activity on the part of other societies.

The Committee again wishes to sincerely thank all of the many physicians who have appeared on scientific postgraduate programs over the state during the past year.

Richard W. Yore, Chairman
John I. Matthews
Edward D. Kinsella
J. F. McDonnell
M. Pinson Neal
E. D. Imes
Paul B. Anderson
W. Thomas Morgan, Jr.
Paul H. Rother
Charles P. McGinty
William D. Hoadley
A. J. Campbell
T. J. Fischer

REPORT OF THE PUBLICATION COMMITTEE

The 64th volume of MISSOURI MEDICINE was completed with publication of the December, 1967 issue. During the year, 13 issues were printed and distributed. Eleven of the issues contained scientific papers, organizational reports and news, and items of interest to the profession. One issue contained the official proceedings of the 1967 Annual Session of the MSMA House of Delegates. The other issue was the annual Directory.

At the year's end, the Journal's total circulation was more than 4,700.

During the year, 65 scientific papers, most of them by Missouri authors, were published. The Editors wish to express special appreciation to the administration and faculties of the University of Missouri Medical Center, St. Louis University and Washington University Schools of Medicine and Ellis Fischel State Cancer Hospital for their valuable contributions.

Advertising revenues for 1967 total $49,831.99. This was an increase of $7,381.82.

The financial report for MISSOURI MEDICINE for 1967 is as follows:

INCOME		$60,396.39
Member Subscriptions	$10,153.50	
Non-member Subscriptions	410.90	
Advertising	49,831.99	
EXPENSES		$72,369.62
Salaries	$27,650.49	
Printing, Paper, etc.	36,083.91	
Postage	846.22	
Discount to Advertisers for Cash Payments	165.05	
Commissions to Advertising Bureau and Agencies	7,287.20	
EXCESS OF EXPENSES OVER INCOME		$11,973.23

Joseph V. Finnegan, Chairman
Richard H. Kiene
C. G. Staffacher
R. O. Muether
Ben M. Bull

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

Having recommended to the 1967 MSMA House of Delegates that a Medical Economics Contract Committee be formed from the existing Medical Economics Committee and the proposed new Interspecialty Practice Committee for the purpose of developing methods of negotiating fee schedules and contracts with government or private fiscal intermediaries, and having gained the approval of the House of Delegates and the Council of MSMA, the Medical Economics Committee proceeded to implement its charge.

The Medical Economics Committee met on April 30, 1967 in St. Louis to introduce to the unofficial representatives of the various specialty practice groups the broad problem of negotiation with fiscal intermediaries with assistance of statewide specialty societies, each of which would select its representatives on the contract committee and establish review committees.

At this time only a minority of practice groups had a statewide organization, but all groups were urged to organize immediately and to consider a suitable mechanism for establishing a suitable fee system, utilizing "relative value scales," "prevailing fees," "usual and customary fees," or other favored mechanisms.

Further progress in introducing these concepts of statewide practice or specialty group organization was made at another meeting at Jefferson City on June 11, 1967, at which time detailed hearings were granted to the group representatives. Some general conclusions were attained, several new statewide groups were then formed, and their representatives selected over the summer months.

In the meantime, the Legislature of the State of Missouri passed a law implementing Medicaid (Title XIX of Public Law 89-97). The Medical Economics Contract Committee met with representatives of the Missouri Division of Welfare in St. Louis on August 6, 1967. On this occasion, Mr. Proctor Carter, Director of Welfare, explained briefly the new Medicaid Law. He stated it would become effective October 13, 1967, would involve approximately 230,000 individual welfare recipients including those on old age assistance, the blind, permanently and totally disabled, aid to dependent children, and general relief recipients, and would utilize combined federal and state funds totally some $29,443,000, of which approximately $9,000,000 was allotted for physicians' fees.

Mr. Carter further explained that his hope was to pay the physicians usual and customary fees for services rendered, also that he needed the help of MSMA to determine the cut-off fee levels. He hoped to pay physicians' fees promptly by a computerized system. When fees charged were above the "cut-off level" the computer would automatically select them out for review by his medical director, Dr. H. O. Loyd. He would then consider the circumstances resulting in the increased fee and pay it, or send it to the specialty review committee for a decision. Welfare recipients would be identified by an identification card issued monthly. He hoped the Medicaid Program in Missouri could be a cooperative venture.

To further implement its charges, the Committee met again on August 20, 1967 in Jefferson City to present, study, and approve the "cut-off fee schedules" developed by the respective practice groups, to secure their review committee members, and to formulate certain guidelines for the conduct of the Medicaid Program in Missouri.

At this meeting it was learned that the Office of Dependents' Medical Care (ODMC) had abandoned a fixed fee schedule contract system and would follow the "usual, customary, and reasonable fee" concept of other federal programs such as Title XVIII-B (Medicare). For the purpose of administering the ODMC program in Missouri effective January 1, 1968, ODMC Missouri fiscal intermediary, St. Louis Blue Shield, was furnished copies of the "cut-off level" schedules adopted for the Title XIX program.

Currently both Title XIX and ODMC programs are functioning in Missouri. The specialty review committees stand ready to evaluate utilization of services, fees above the "cut-off level," services involving unusual circumstances, and other problems which arise. The Medical Economics Contract Committee will review the total programs at least yearly and recommend needed changes.

The policy of the MSMA Medical Economics Contract Committee was presented by MSMA President Hector Benoit to the Missouri Crippled Children's Service at its policy-forming meeting at Columbia, Missouri, on December 3, 1967. Dr. Benoit proposed that all government medical programs should utilize the usual, customary, and reasonable fee principle. It is understood that the Missouri Crippled Children's Service will seek additional funds from the Missouri State Legislature.

The Council of MSMA requested the Medical Economics Committee to consider and make the recommendations on the 1967 House of Delegates resolution of the Ozark Medical Society:

> *Whereas,* good medical insurance is now available from many sources;
>
> *Whereas,* the medical societies need to sponsor Blue Cross and Blue Shield would seem no longer necessary;
>
> **Resolved,** that the Council be directed to investigate changes in future relationships of Blue Cross and Blue Shield and the Missouri State Medical Society.

Accordingly, the Medical Economics Committee met in St. Louis on January 21, 1968, considered the resolution in detail and recognizing the need for the MSMA to continue to guide, advise, analyze, and experiment with insurance plans, for the purpose of improving health insurance benefits to patients, did thereby advise the Council of MSMA that it continue to sponsor Blue Shield and that it furthermore authorize a liaison committee, preferably a part or subcommittee of the Medical Economics Committee, to meet periodically with Blue Shield, Blue Cross, and commercial insurance carriers. It further recommends joint action with Blue Shield to seek a plan for broader representation of component medical societies on the Blue Shield and Blue Cross voting board and boards of directors.

To remain informed about health and socio-economic matters the Chairman of MSMA Medical Economics Committee attended the AMA's First National Congress on the Socio-Economics of Health Care in Chicago on January 22-23, 1967 and the second meeting on March 22-23, 1968, also the AMA Conference for the Health Care for the Poor on December 15-16, 1967.

Herbert C. Wiegand, Chairman
Martin P. Hunter
Rae W. Froelich
Chester L. Clark
G. W. Winn
Russell D. Shelden
David G. Hall
Avery P. Rowlette
C. O. Vermillion
Charles Miller, Jr.
W. J. Ferguson
Robert H. Lund

REPORT OF THE COMMITTEE ON MATERNAL WELFARE

MATERNAL DEATH STUDIES

As has been the custom for many years the state divided into an eastern and western half has had detailed maternal death analyses carried out by committees of the St. Louis and Kansas City Gynecological Societies. These meetings are exceptionally well attended and are of the greatest educational value to those attending. These studies are the source of the maternal death statistics for the state.

MATERNAL WELFARE LUNCHEON

Case presentations of at least two maternal deaths and the statistics for the state will be presented at a luncheon meeting on Friday, March 29, 1968 from 12:00 noon to 2:00 p.m. Dr. Harry Jonas will be in charge of this program.

OBSTETRIC AND GYNECOLOGIC PROGRAM

Since no guest speaker or portion of the planned program of the annual meeting was assigned to this specialty discussion and vote was taken to contact the Program Chairman and request a portion of the meeting for this specialty. Accordingly the Program Chairman was contacted and graciously gave a choice of times and Dr. Eugene Hamilton of St. Louis will present a paper on "The Prevention of Rh Isoimmunization by the Use of Rh Antibodies."

RECOMMENDATION FOR CHANGES IN THE MISSOURI LAWS REGARDING ABORTION

Considerable discussion was held regarding legislation on abortion and a recommendation was formulated to be sent to the Council. This was presented to the Council on December 10 and was referred to the Legislative Committee. The recommendation of the Maternal Welfare Committee follows:

> The following is established as policy of the Missouri State Medical Association: ". . . Recognizing that there are many physicians, who, on moral or religious grounds, oppose therapeutic abortion under any circumstances, the Missouri State Medical Association is opposed to induced abortion except when:
>
> 1. The continuance of the pregnancy would gravely impair the physical health of the mother, or, that the child would be born with a grave permanent physical defect.
> 2. The pregnancy resulted from rape or incest. Any woman requesting an abortion based on contention of rape must have reported said rape to the police within 72 hours after the alleged occurrence and must file an affidavit or complaint with the police to that effect.
> 3. Any such abortion, as set forth in 1 and 2, shall be performed in a licensed hospital.
> 4. No abortion shall be performed unless three (duly licensed, specifically competent) physicians other than the physician who is to perform the abortion, certify in writing that they believe the abortion to be justified and necessary.
> 5. The certificate shall be filed with the administrator of the hospital where the abortion is to be performed at least 24 hours before the abortion takes place, and the administrator shall cause such certificate to be kept on file by the hospital for a period of five years after the date of filing. The certificate shall not be a public record or a business record of the hospital, and no certificate shall be open to inspection to any person except the prosecuting attorney of the county wherein the hospital is located, any person duly designated by order of the Circuit Court of the county wherein the hospital is located as being entitled to inspect or copy such record, or by the hospital medical staff committee concerned with maintenance of hospital standards.
> 6. The addition of a residency requirement for the patient within the normal practice area of the physician would be a desirable addition.

CHANGES IN THE BIRTH CERTIFICATE

Dr. Meinershagen presented a number of proposed changes in the birth certificate which have been recommended by the federal agency increasing the detail of sociologic data which were not received with enthusiasm by the group but approval was voted.

IMMUNITY OF STUDY RECORDS

Discussion was again held as it has been again and again over the last several years on legislation to make the proceedings and findings of study groups such as our Maternal Death Studies, Hospital Tissue Committee and Medical Audit Committees immune from subpoena or use against any physician member of such group or physician whose case is under study. It was decided to recommend this to the Council and perhaps incorporate it in a "Good Samaritan Law" which might give it better chance of passing.

WILLIAM B. SEE, Chairman
EUGENE HAMILTON
LEONARD WALL
C. G. STAUFFACHER
EDWARD GRIM
RAYMOND CONRAD
E. E. WADLOW
PAUL KRATZ
CARL DREYER
LYMAN D. BROWN
ROBERT S. BROWN
SEMOUR MONAT
SAM MONTELLO
HARRY JONAS

REPORT OF THE COMMITTEE ON INFANT AND CHILD CARE

The Committee on Infant and Child Care met in Jefferson City on November 19, 1967. Problems and suggestions were discussed including: (a) School Health Education presented by Ann E. Nolte, Ph.D., Associate Director, School Health Education Study, Washington, D. C., "What Is Happening in School Health Education Today"; (b) regulations relating to PKU Law in Missouri and need for improved test reporting; (c) regulations relating to Missouri's Child Immunization Law and the need for education of the public; (d) AMA 11th National Conference on Physicians and Schools, October 4-7, 1967 which included recommendations for a full course in health in the public school curriculum, education on the evils of alcoholism and the value of driver training courses; (e) St. Louis County Medical Society School Health Committee program, November 8, 1967, "Learning Disabilities of Young Children"; (f) developments to date on full health course in the curriculum of the Missouri Public School System as proposed by the MSMA House of Delegates in a previous session.

The Committee officially recommended revision in the public school regulation to provide additional advance practice of athletic participants. During the December 9-10, 1967, meeting, MSMA Council amended and approved the recommendation along with the complete November 19, 1967 report of the Committee.

Recommendation as amended and approved by the Council is as follows:

> "that proper precaution be taken for adequate conditioning before any student participates in athletics."

James A. Kinder, Chairman
E. J. Schwartz
James K. Mann
H. E. Petersen
Francis X. Lieb
Guy N. Magness
Robert J. Harris
James J. Pascoe
Barbara E. Russell
Richard Blim
C. Read Boles
Glennon A. Horner
Bailey A. Andrus
Willard B. Avery

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The Council of MSMA, at its meeting on September 16-17, 1967, referred to this Committee for study and recommendation the matter of psychiatrists participating in a training program for osteopathic residents in psychiatry at the Nevada, Missouri State Mental Hospital.

The Committee reported its recommendations to the Council which were amended and approved as follows: "There is nothing unethical or improper about Doctors of Medicine participating in the training program in psychiatry of Osteopathic Physicians at the Nevada State Hospital."

In view of the future possible licensure of psychologists in Missouri, the Committee recommends the "Umbrella Licensing Approach" which is in line with the position previously taken by the MSMA on paramedical groups, that is, if psychologists are registered and licensed in Missouri that this be done under the Board of Registration for the Healing Arts.

The Committee recommends further favorable consideration on the proposal that foreign physicians practicing in State Hospitals, and holding temporary licenses, be allowed to take the Missouri State Board Examination when otherwise qualified and not be required to wait until the end of five years when they become a U. S. citizen. If such were permitted, however, these physicians would not receive their regular licenses until they became citizens.

Robert S. Terrill, Chairman
Henry V. Guhleman, Jr.
Paul W. Hayes
James N. Haddock
Robert D. Brookes
D. R. Edwards
James B. Allison
Paul L. Barone
Edward T. Auer
Leonard J. Wiedershine
Marie Mowrer
Charles B. Wilkinson

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

The Council of the Missouri State Medical Association, at its meeting on May 6, 7, 1967, referred two matters to the Committee on Constitution and By-Laws for consideration.

1. The Council recommends to the Committee that Chapter III, Sec. 2, line 4 and line 7, of the MSMA By-Laws be amended so that the word "members" in each of these two lines be changed to "memberships" so that it would read, "Each component county society shall be entitled to send each year one delegate or one alternate to the House of Delegates for each 50 full paid *memberships* or fraction thereof in the Association on December 31 of the previous year, plus one additional delegate or alternate for each 100 *memberships* or a major fraction thereof. . . ."

This recommendation of the Council followed consideration of a resolution referred to the Council for study by the 1967 MSMA House of Delegates. The resolution was introduced by the St. Louis County Medical Society in the House of Delegates as follows:

> "*Whereas,* The various component societies are urged to elect their officers in October, and
>
> "*Whereas,* It is impossible to know at that time how many fully paid members there will be as of December 31, therefore be it
>
> "**Resolved,** That Section 2, Chapter III of the Missouri State Medical Association Constitution and By-Laws be amended by striking out the words December 31 and inserting in lieu thereof the words, September 30."

The Committee has attempted to look at all sides of this issue and believes that the present wording of the By-Law, namely, Section 2 of Chapter III, should be left as presently worded. The Committee would interpret memberships to also include members who may have died during the year and feels they should not be counted toward determining the number of delegates a county society should have for the next year to the MSMA. Also, there are numerous transfers of members of one county medical society in the state to another society throughout the year. Most of these transfers are after members have paid their annual dues. When a member from one society transfers to another and is accepted in the new society at any time during the year, such member is then considered a member of the new society, even though his transfer does not take place until a month or two prior to the end of the year. He is no longer then a member of the society from which he transferred. If the word "memberships" is substituted in the specified By-Law for the word "members," he would be counted toward delegate representation by the county society from which he transferred and at the same time would be a member of the new society to which he transferred. This would cause much difficulty in membership counts in many societies where transfers would occur. The Committee feels that much less trouble will be encountered by leaving the By-Law as it is.

It seems to the Committee that those county societies electing delegates prior to December 31 of the year preceding next Annual Session where they will serve, can arrange to drop or add one or two delegates should by chance their member count on December 31 be greater or less than their count when electing their delegates prior to that date. It is the feeling of the Committee that this problem will occur so infrequently, the change in the By-Laws relative thereto, is not justified.

2. The Council requested this Committee's study and recommendation regarding the feasibility of changing the By-Laws to set up specialty sections. The Committee discussed this matter at considerable length. A letter was read from Dr. J. Wm. Thompson of St. Louis, a member of the Committee who was unable to attend, setting forth his opposition to the establishment of such sections in the framework of the MSMA and giving his reasons for such position.

The Committee recommends to the Council that specialty sections not be established as part of the MSMA at this time. Reasons for the Committee's position are as follows:

a. The Association does not have a large enough membership.

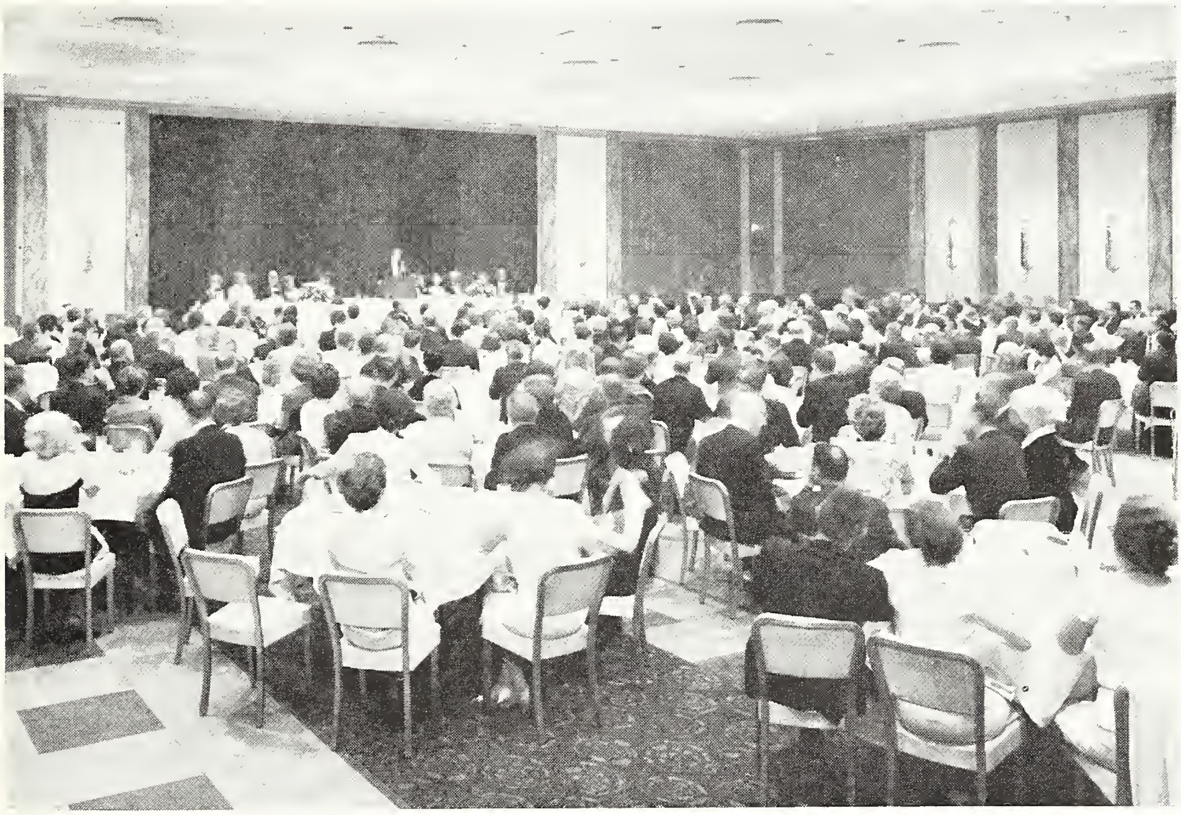
b. No real need seems to exist.

c. Further so-called "splintering" of the profession should be avoided.

d. Space and time for the many meetings could become quite difficult to work out at the Annual Session of the Association.

e. The House of Delegates has recently established a new Committee of MSMA called the Committee on Interspecialty Medicine to be composed of one representative from presently formed statewide specialty groups and from others which may be formed in the future. This Committee is charged with the responsibility of reviewing administrative problems with respect to scientific programs, socio-economic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this Committee are to be made periodically to the Council as well as to the House of Delegates. Your Committee feels that this Committee on Interspecialty Medicine displaces any need for scientific specialty sections in MSMA.

f. It has been a policy of the Annual Meeting Program Committee of MSMA to contact the various specialty groups and invite them to put on a part of the scientific program of the MSMA Annual Sessions. This



Three hundred and fifty physicians and their wives and guests gathered in the Grand Ballroom of the Muehlebach Hotel in Kansas City for the 1968 President's Banquet and to hear Mr. Bill Vaughan deliver the address of the evening. A Kansas Citian, Mr. Vaughan is a nationally syndicated columnist and humorist.

Three MSMA officers from St. Louis pose for Missouri Medicine at the 1968 Annual Session. ***(Left to right)*** **Dr. Arthur W. Neilson, Delegate to the AMA; Dr. David N. Kerr, President-Elect; and Dr. Max S. Franklin, Treasurer.**

procedure has proved quite satisfactory and excellent cooperation and results have been evidenced. This procedure and results further convince the Committee that specialty sections are not needed in MSMA.

The Committee discussed the present MSMA Committee structure as set forth in the By-Laws and recommends the following:

"That a study be made of the committee structure as outlined in the MSMA By-Laws with the objective of bringing about simplification of the committee structure through the possibility of combining some committees and the deletion of others. It is this Committee's understanding that some of the committees do not function for one reason or another. It would seem logical in certain instances to designate new committees which could serve the purposes of two or more present committees, as well as consider current matters not specifically coming under the auspices of any of the Association's present committees.

"Your Committee realizes that this is a major undertaking and therefore recommends to the Council and the House of Delegates that sufficient time and effort be given to this recommendation to assure the desired results."

The Committee submitted these recommendations as herein set forth to the Council at its meeting on December 9-10, 1967. The Council approved the recommendations and charged the Committee with the assignment of studying the present committee structure as outlined in the MSMA By-Laws.

Kenneth C. Hollweg, Chairman
Byron M. Stuart
J. William Thompson
W. A. Bloom
J. R. Meador

REPORT OF COMMITTEE ON CONTROL OF VENEREAL DISEASE

The initial objectives of the Committee for the past two years was accomplished in November, 1967, thanks to an excellent piece of work by Dr. Joye Patterson of the University of Missouri; Mr. William Neser, University of Missouri; the Missouri Division of Health; and innumerable letters, urgings and communications by Mr. Fox of the Missouri State Medical Association staff.

The objectives were 1) Is there a need for further effort to control venereal disease in Missouri? 2) Where should that effort be directed? 3) How should it be done?

Mr. Neser's work was published in MISSOURI MEDICINE, October 1967, "Environmental Indicators and Implications for Control of Infectious Syphilis." Also published was "Attitudes of Prospective School Teachers on Teaching Venereal Disease Information," in PUBLIC HEALTH REPORTS.

Dr. Patterson's study on the present knowledge of health information conducted on high school students and high school dropouts, provided us with an excellent guide for the need of, and methods for, teaching our high school students.

It is the opinion of our Committee that 1) Information on venereal disease should be taught in the school systems. 2) Our Committee should work through each county medical society in an effort to reach the local school board. 3) That we should provide the society with carefully studied and accurate data to support our opinion. This we feel we have available in our previous references. 4) That our Committee should recommend and provide the information we feel should be taught and be applicable to almost any type of health course.

Our efforts are now directed to items 2 and 4 above. Excellent cooperation has been received. Dr. Avery, of the Cooper County Medical Society, also a member of the Boonville, Missouri, School Board, met with our Committee to discuss implementing a pilot program in their high school and follow-up health survey by Dr. Joye Patterson. Dr. Foster has contacted Mr. David Leventhal, of the St. Louis City Superintendent's office, regarding follow-up of venereal disease testing of students who have had a venereal disease course. Dr. Copley, Head of the Education Department, Southwest Missouri State College, has agreed to evaluate our material and indicated an eagerness to use our information. Finally, Dr. Arthur Neilson has agreed to attempt to put together the concise, authoritative information that we want to present. We feel that when completed, this will be a major contribution to future health care.

The RPR card or circle test (for syphilis) was discussed, and it is felt that the MSMA Laboratory Medicine Committee should consider this new procedure with some caution and any recommendation by this Committee should state that the test be performed only by accredited laboratories.

Edwin M. Powell, Chairman
John N. Martin
Thomas E. McMillan
A. W. Neilson
Gilbert Ross, Jr.

REPORT OF THE COMMITTEE ON EYE HEALTH

The Committee on Eye Health did not meet officially during 1967. However, a poll of the Committee by mail was conducted for review and approval of a Glaucoma

Screening Feasibility Program as proposed by the Missouri Division of Health.

The Committee offered assistance for consultation with John K. Wallace, M.D., Administrator of the State Highway Safety Program. Missouri is planning to implement regulations in compliance with the new *1966 National Highway Safety Act*. Eye test standards for all vehicle operators will be included in the new law.

The Glaucoma Screening Program as proposed by the Missouri Division of Health was approved by the Committee on Eye Health. The purpose of the program is to urge physicians to include test for glaucoma when conducting physical examinations of their patients and related public education.

Report of the Committee accordingly was submitted to the MSMA Council Meeting February 3-4, 1968, in Jefferson City. Council approved Committee report as submitted.

FLAVIUS G. PERNOUD, JR., Chairman
PAUL G. WOLFF
DICK H. UNDERWOOD
JOHN D. MADDOX
TRUMAN B. SCHERTZ
JOHN F. BRADFORD
WILBUR H. LEWIN
D. E. EGGLESTON
JACK HARTSTEIN
GEORGE MANDLER
H. B. STAUFFER
ROBERT STEWART
EARL G. PADFIELD, JR.

REPORT OF THE COMMITTEE ON DIABETES MELLITUS

As in the past years, various members of the Committee participated in diabetic detection studies in St. Louis or Kansas City.

The St. Louis Diabetes Association in the 1966-67 Diabetes Detection Drive distributed over 199,098 Dreypaks. Of this large number of Dreypaks distributed only 27,104 (14%) were returned for processing for presence of glucose, and 611 (2.2%) of these tested were found positive. Four hundred sixty-two persons with a positive Dreypak had a free one-hour and two-hour glucose tolerance test performed. Of these, 153 (33.1%) were found to be compatible with a diagnosis of diabetes, and 76 (16.4%) were classified as indeterminate.

The St. Louis Diabetes Association performed 115 one and two-hour glucose tolerance tests on individuals that had borderline tolerances in previous detection studies. Twenty-seven (23%) were definitely of the diabetic type. Perhaps it will take a few more years for some of the other borderline cases to have a diabetic-type of tolerance.

The Committee has always stressed that the technique used—namely the Dreypak and a modification of the three-hour glucose tolerance test—is used for detection and not for diagnosis. These individuals are encouraged to see their private physicians for a definite diagnosis and treatment. When these people seek medical help, other diseases such as cancer, hypertension, heart disease and tuberculosis are being discovered.

The Committee anticipated working with the Missouri Division of Health in performing another County Detection Survey, but at the present time the plans have not been completed.

The members of the Committee again wish to emphasize that detection studies do educate the public to the importance of diabetes, as well as other diseases, and also aid in early treatment.

We urge the physicians to become interested and active in such studies by either joining the Missouri State Diabetes Association, or by forming a local or community organization for the education of the lay people about diabetes.

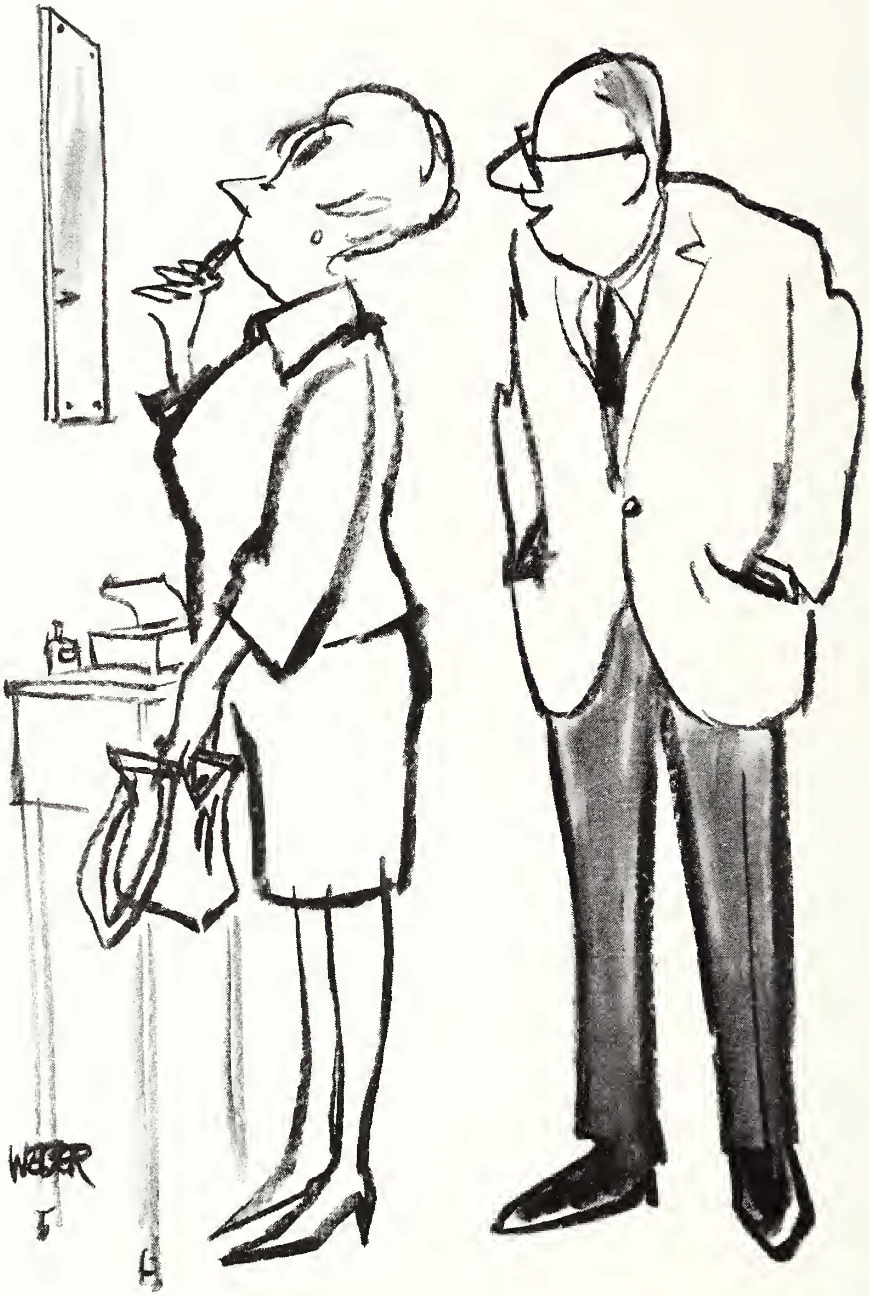
HAROLD K. ROBERTS, Chairman
LUCIEN W. IDE
H. E. OPPENHEIMER
THOMAS W. BURNS
DONALD A. BLACK
WILLIAM H. OLMSTED
LOREN BROADDUS
C. C. COHRS
HAROLD D. RIDINGS

REPORT OF THE COMMITTEE ON LABORATORY MEDICINE

For the past year your Committee Chairman, at the request of the President of Missouri State Medical Association, has been actively engaged in consideration of legislation proposed for the control of laboratories and laboratory personnel in this state. This work was recommended by a committee representing the medical associations, hospital associations and technology and pathology societies in Missouri. Consideration of these matters was stimulated by the Division of Health of Missouri. A small working committee was formed from the larger group to draw up proposed legislation and, after extensive discussions, two proposed bills have been drawn up, one relating to medical laboratories and one relating to medical laboratory personnel. Both of these bills are too lengthy to include them in this report. It is recommended that both of these proposed pieces of legislation be published in detail in the Missouri State Medical Association Journal in the near future so that they can be considered by the membership. In the opinion of your chairman, it would be far better to propose very brief enabling legislation which would make it possible for the Department of Laboratories of the Division of Health to regulate medical laboratories in the state with some advice from a Laboratory Commission and for the State Board of Registration for the Healing Arts to regulate medical laboratory personnel through an appropriate committee. The recent establishment of a State Board of Health in Missouri could help make something like this possible. To explain further, it would seem much more desirable to accomplish improvements in the standard of service that laboratories and laboratory personnel provide by regulation rather than by law in order to keep the regulations updated without the necessity for legislative intervention on every occasion where this might seem necessary.

Your Committee on Laboratory Medicine also feels that some form of medical examiner law would be desirable in Missouri. The possibility of such a law was pursued in the last session of the Legislature with success in the House but the bill died in Senate Committee.

A proposed law to consider the provision of blood by banks as a service and not a sale, thereby exempting blood banks from the provision of the law of implied warranty, has met a similar fate. Both of these matters



***"Everything looks fine,
but we should do something about that extra weight you're putting on."***

Get them while they're easily reversible.

Obesity doesn't happen suddenly. This insidious process has its beginning—and the chances of reversing it are better—during the *first 10 to 15 pounds of weight gain.* When a new dietary pattern must be established, consider the adjunctive use of BAMADEX SEQUELS. Combining the proven *anorexigenic* action of d-amphetamine with the *tranquilizing* effect of meprobamate, BAMADEX SEQUELS controls appetite throughout the day, usually with a single capsule daily.

Contraindications: Dextro-amphetamine sulfate: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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Dextro-Amphetamine Sulfate (15 mg.)
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deserve further attention and support from our Association.

Still another matter deserves our attention and that is the recent national attack on the performance of medical laboratories. In this attack, erroneous reports on laboratory performance and evaluation have been widely circulated and, if these are allowed to stand, could well become accepted as fact. We refer specifically to the allegations by the National Communicable Disease Center in Atlanta, Georgia that 25% of all laboratory tests performed in the United States are in error. It should not be forgotten that these measurements under discussion are designed to guide medical decisions. Since these tests are used to assist medical practice, the adequacy of a given measurement should be judged on the basis of its medical application. The recent statement that 25% of laboratory tests are unsatisfactory is incorrect, since this figure is not based on the criterion of medical usefulness but rather on the criterion of future medical goals. On the same basis, we could say that a large number of successful surgical operations are unsatisfactory because they do not achieve a complete cure, which is the medical goal. This same technique has been used in a different way by the President in his recent State of the Union Message in which he continued the criticism of the performance of American medicine with regard to the salvage rate of newborn infants. He stated that we are seventeenth among nations in terms of our salvage rate. This can be referred to as the "numbers game" with which we are all familiar since we have used medical statistics in an attempt to prove our points over a great many years. We, therefore, realize the fallacies that can lie behind the methods by which these statistics are gathered. It is obvious that the statistics of a nation which only considers infants liveborn if they have lived long enough to be registered, cannot be compared with a nation like our own which considers every infant liveborn if there is a heart beat at the time of delivery.

Your Committee has recently received a request from the Council of the Missouri State Medical Association to consider the problem of blood alcohol levels in automobile drivers and this matter is under consideration at the present time. We hope to have a report in the near future.

William R. McPhee, Chairman
Vincent Perna
Henry C. Allen
Richard V. Riddell
Victor B. Buhler

REPORT OF COMMITTEE ON AGING

The Committee on Aging did not meet formally during 1967. The Chairman, however, represented MSMA at the "Governor's Conference on Aging" conducted October 30, 1967 at the Ramada Inn in Jefferson City, Missouri. The Chairman represented MSMA also at Planning Committee Meetings scheduled by Missouri University Continuing Education Program, for Administrators of Long-Term Care Facilities. The first such meeting was conducted December 15, 1967 at the Missouri University Medical Center, sponsor of the program, which is scheduled for June, 1968.

Robert H. Tanner, Chairman
Rolla B. Wray
Ralph Perry
C. Thorpe Ray
John W. Daake
Norman P. Knowlton, Jr.
Warren F. Wilhelm
Robert E. Koch
Logan Mayfield
C. A. Nester

REPORT OF COMMITTEE ON DISASTER MEDICAL CARE AND NATIONAL DEFENSE

The Committee met twice during the year to consider problems relating to:

A. The medical self-help program, medical community preparedness in the event of local and/or national disaster.
B. The National Highway Safety Act of 1966,
    1. Blood alcohol level of 0.10 mgm./mil. of blood as a legal as well as a medical standard for diagnosis of the drunk driver.
    2. Hospital preparedness for the highway accident victims.
    3. Transportation of the injured,
        a. Training of ambulance personnel.
        b. Improvement in ambulance services.
C. Preparedness of community hospital for reception of the acutely injured,
    1. Preparation of standard operating procedures in outline form for use of auxiliary personnel in emergency situations.
    2. Organization of communities of doctors for rapid mobilization in event of emergency.

The Committee requested the Council to promote the introduction of and lend active assistance to legislators in changing Missouri's drunk driver law to comply with the National Highway Safety Act. This recommendation was referred to the Committee on Laboratory Medicine, for study.

The Boone County Hospital Emergency Plan and the Boone County Ambulance Plans are recommended by the Committee as excellent models for use by large and small communities in preparation of their local plan.

Recognizing that the medical self-help program is financed and promoted by the Division of Health, State of Missouri, the Committee additionally recommends full cooperation of local physicians in dissemination of this vital information as, potentially, a lifesaving program.

Hopefully the Committee will have an exhibit prepared for the convention in 1968.

John T. Crowe, Chairman
George L. Watkins
Carl D. Siegel
Carroll P. Hungate
William F. Bell
Bernard L. Murphy
Durand Benjamin
Ned B. Chase, Jr.
Allen P. Klippel
Oscar P. Hampton, Jr.
Paul A. Lindquist
Joseph P. Russell
Robert B. Young

These Past-Presidents of the MSMA were at the Banquet to receive plaques presented to them in recognition of their terms of office and outstanding service and dedication to the MSMA and organized medicine. *(Left to right, front row)* Dr. Robert Mueller, St. Louis; Dr. Guy N. Magness, University City; Dr. Harold E. Peterson, St. Joseph; Dr. Victor B. Buhler, Kansas City; and Dr. Donald M. Dowell, Chillicothe. *(Back row)* Dr. James R. McVay, Kansas City; Dr. Howard B. Goodrich, Winter Park, Fla. (formerly of Hannibal); Dr. William A. Bloom, Fayette; and Dr. Ralph Perry, Kansas City. Since the 1964 Annual Session, similar plaques have been presented to the retiring President at the end of his term of office. Those living Past-Presidents who were unable to attend the Banquet will receive their plaques by mail. They are Drs. Cyrus E. Burford, Curtis H. Lohr, J. W. Thompson and R. O. Muether of St. Louis and W.F. Francka of Hannibal.

Thomas B. Cook
W. Alexander Hoja
H. M. Hardwicke

REPORT OF THE COMMITTEE ON PUBLIC SERVICE

Three members of your Committee, Dr. Benoit, Dr. Kerr and the Chairman, attended a two-day Communications Institute conducted by the AMA in Chicago in August. Such Institutes have proved to be worthwhile in their endeavors to point out to officers and staff members of state and county medical societies, as well as organizations allied with health care, various modes and methods of communicating with the people they are trying to reach and, in turn, opening new communication channels for people who are trying to reach them.

On November 4 and 5, in Columbia, this Committee sponsored a new "first" which may have given impetus to a potentially valuable annual project. This was a conference specifically designed for officers of county medical societies. Its purpose was to improve the relationship between the State Association and its local societies and to alert society leaders to the broad programs and policies of organized medicine.

Two of our State Legislators discussed the relationship between the medical profession and the legislators. The recently implemented Title XIX program in Missouri and the part the MSMA Medical Economics Contract Committee played in its development was explained.

Information was well presented as to the relationship of the AMA to state and county medical society functions and the lines of communication available to every physician. Among those appearing on the program was Dr. Milford O. Rouse, President of AMA. Small discussion groups discussed many varied problems with the monitor of each group reporting their recommendations to the entire assembly.

A more detailed description of the Conference appears in the "President's Message," January, 1968 issue of MISSOURI MEDICINE, Page 57.

Your Committee recommends that this Conference become an annual affair.

It is customary for the Committee to report on public service expenditures made by MSMA each year, including fees paid to the Association's Public Relations Counsel, even though such fees cover work done for other committees and in connection with other Association activities. Total expenditures for 1967 amounted to $13,099.45.

Joseph L. Fisher, Chairman
Armand Brodeur
Kenneth Glover
David N. Kerr
Hector W. Benoit, Jr.
Stanley S. Peterson
J. L. Washburn

REPORT OF COMMITTEE ON LEGISLATIVE MATTERS

The 1967 Missouri General Assembly considered a record number of bills during its six-month session. There were 1,287 bills introduced, 877 of them in the House and 410 in the Senate. At the session's end, 258 bills had been passed by the Assembly, 129 from each chamber.

Some 45 of these legislative proposals related to medical or health care matters. The State Medical Association took active interest to varying degrees in 32 bills, with Association representatives appearing as witnesses on 27 different occasions.

The MSMA supported the Title XIX legislation (Medicaid) and arranged for supporting witnesses to appear at the legislative hearings both in the Senate and House. In the closing days of the legislative session, in a surprise move, an amendment providing for the addition of "Chiropractic Services" was tacked onto the main Title XIX Bill. However, the Title XIX program was finally enacted without "Chiropractic Services" included. The MSMA opposed the addition of these services.

Missouri Chiropractors made intensive efforts in the 74th General Assembly to win approval of three other pieces of legislation designed to expand their practice rights. All three bills were opposed by the MSMA and were finally defeated or shelved.

The Association supported a bill to create a seven-member State Board of Health to be appointed by the Governor with the advice and consent of the Senate. The Board is empowered to appoint the Director of the State Division of Health and to formulate policies of the Division. This bill was passed and is now law.

The State Medical Association again supported a bill to establish a statewide medico-legal examiner system and arranged for the appearance of witnesses before legislative committees considering the bill. The bill passed the House but died in the Senate Judiciary Committee.

The Association assisted in drafting and promoting a measure to bring LSD and other hallucinogenic drugs under Missouri's Narcotic Control Laws. This bill is now law.

Another bill which became law with Association support was one to permit patients in state mental institutions to be transferred to their family homes with the state paying for custodial care.

The 1967 MSMA House of Delegates approved a general principle of licensing and regulating paramedical practitioners through their own groups with such actions subject to final approval by the Board of Healing Arts. Based upon this principle, your Committee, in cooperation with the State Osteopathic Association and the Board of Registration for the Healing Arts, authorized legal counsel to draft a substitute bill for a bill which had been introduced to license physical therapists by a board of their own, independent of any existing agency. This substitute bill (so-called umbrella plan) was considered by a Senate Committee late in the session with no time for Senate action. Medical profession spokesmen pointed out to Legislators that this "umbrella" plan could be applied to any of the paramedical or ancillary practice groups.

The 1968 special 60-day session of the Missouri Assembly considers only appropriation measures plus scientific legislative recommendations of the Governor. The Governor's legislative recommendations in his message to the Assembly on January 12 contained no special items for your Committee's consideration.

The Committee urges all County Medical Societies in Missouri to consider carefully, better and more effective ways of contacts with legislators in relation to legislation affecting the practice of medicine and the health of the people.

John I. Matthews, Chairman
Hector W. Benoit, Jr.
Doyle C. McCraw
David N. Kerr
Joseph L. Fisher
Stanley S. Peterson
J. Loren Washburn

REPORT OF COMMITTEE ON ALCOHOLISM (SPECIAL)

Considerable strides have been made in combating alcoholism in Missouri during the past year but almost all of these were in state or municipal facilities. The state alcoholism program under the direction of Ronald Catanzaro, M.D., opened facilities for treatment of alcoholics in the state hospitals at Farmington, Fulton, Nevada and St. Joseph. Also at the St. Louis State Hospital and Missouri Psychiatric Institute, a 60-bed alcoholism unit has been opened. Alcoholism treatment centers are in operation at the Western Missouri Mental Health Center in Kansas City, and at the Mid-Missouri Center in Columbia. At Malcolm Bliss Mental Health Center in St. Louis the Alcoholism Treatment and Research Center has been enlarged to include a day-hospital and an out patient clinic.

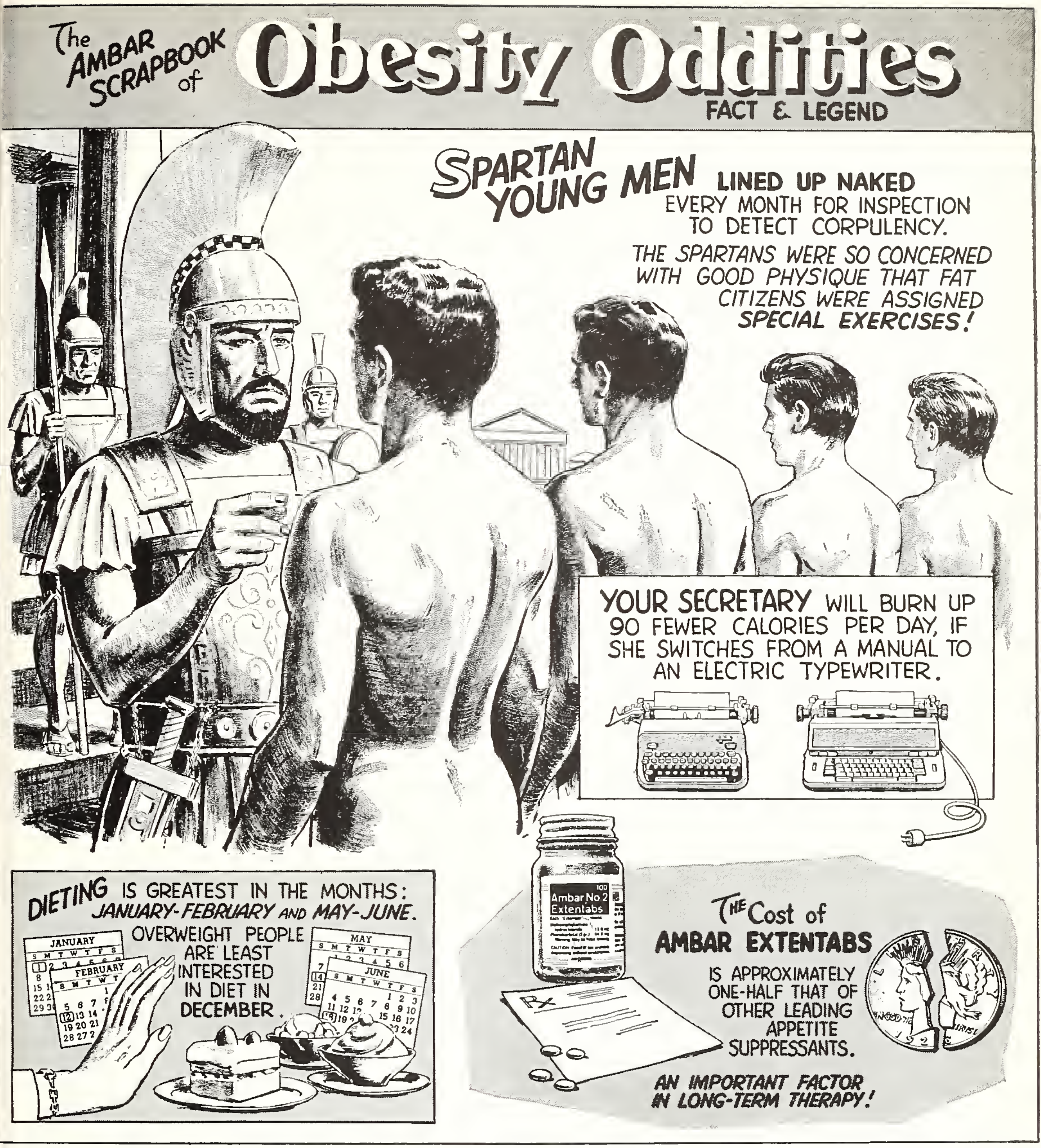
Also in St. Louis under the direction of the Metropolitan Police Department, the St. Louis Detoxification and Diagnostic Evaluation Center, the first such Center in the Western Hemisphere, has admitted during the past year over 1,000 patients arrested by the police for public drunkenness. This Center offers a new approach to some of the problems of alcoholism, and has attracted continent-wide attention.

Governor Warren E. Hearnes has shown his interest in the problem by appointing a Governor's Advisory Council on Alcoholism. This Council has had several meetings during the year and has submitted to the governor a number of pertinent suggestions regarding alcoholism treatment and control.

The City of St. Louis has passed an ordinance providing for treatment rather than jail sentences for arrested alcoholics.

Little has been done, however, by the private general hospitals and by the medical profession in general.

Your committee, recognizing that alcoholism is the nation's third greatest public health problem, feels that there are certain urgent needs in our state and recommends the following:


The AMBAR SCRAPBOOK of Obesity Oddities
FACT & LEGEND
SPARTAN YOUNG MEN LINED UP NAKED EVERY MONTH FOR INSPECTION TO DETECT CORPULENCY.
THE SPARTANS WERE SO CONCERNED WITH GOOD PHYSIQUE THAT FAT CITIZENS WERE ASSIGNED SPECIAL EXERCISES!
YOUR SECRETARY WILL BURN UP 90 FEWER CALORIES PER DAY, IF SHE SWITCHES FROM A MANUAL TO AN ELECTRIC TYPEWRITER.
DIETING IS GREATEST IN THE MONTHS: JANUARY-FEBRUARY AND MAY-JUNE.
OVERWEIGHT PEOPLE ARE LEAST INTERESTED IN DIET IN DECEMBER.
JANUARY
FEBRUARY
MAY
JUNE
100
Ambar No 2
Extentabs
Rx
THE Cost of AMBAR EXTENTABS IS APPROXIMATELY ONE-HALF THAT OF OTHER LEADING APPETITE SUPPRESSANTS.
AN IMPORTANT FACTOR IN LONG-TERM THERAPY!

ONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg.,
phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

ne Ambar Extentab before breakfast can elp control most patients' appetite for up o 12 hours. Methamphetamine, the appeite suppressant, gently elevates mood and elps overcome dieting frustrations. Phenoarbital, the sedative in Ambar, controls irritability and nxiety...helps maintain a state of mental calm and equaimity. Both work together to ease the tensions that erode he willpower during periods of dieting.

lso available: Ambar #1 Extentabs®—methamphetamine ydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warnng: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

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1. Beds be made available for treatment of alcoholics in *all* general hospitals.

2. Out-patient clinics for alcoholics be established at integral points throughout the state.

3. Regular training courses on alcoholism be held for (a) physicians; and (b) hospital and paramedical personnel and other interested professionals.

4. More halfway house facilities be established so that convalescent alcoholics might gradually be brought back into productive society.

5. That the MSMA take the lead in publicizing the facts that alcoholism is a sickness, not a sin and that alcoholics are sick people who CAN be helped and are worth helping.

6. That the MSMA at its annual meeting conduct symposia on alcoholism and that MSMA assist the various component societies in conducting meetings on the same subject.

7. We respectfully request that the MSMA continue a Committee on Alcoholism and that it urge its component societies also to form such committees.

8. We suggest that the MSMA offer its full support to the Missouri State Alcoholism Program.

Joseph B. Kendis, Chairman
Max E. Teare
Evelyn Griffin
Tom R. Burcham, Jr.
Kathleen Smith

REPORT OF COMMITTEE ON NURSING AND PARAMEDICAL PERSONNEL (SPECIAL)

The Committee held meetings with representatives of the Missouri League for Nursing, Missouri Nurses' Association, Missouri Hospital Association, officers of the Missouri Regional Medical Program, Dean of the University of Missouri School of Medicine, Missouri Division of Health, and the Woman's Auxiliary of Missouri State Medical Association. The Committee maintains constant communications with the Missouri State Board of Nursing and the Nurse Coordinator of the Professional Survey, which is a section of the Missouri Division of Health.

The operation of the Information Clearing House established jointly by the Missouri State Medical Association and its Woman's Auxiliary were reviewed and its activities for the current year were planned in some detail with Mrs. Mary Bumgarner, R.N., who is Chairman of the Woman's Auxiliary Careers Program. Mrs. Bumgarner regularly meets with, and for practical purposes is a key member of, this Committee.

Information received from the Missouri Division of Health Professional Survey, emphasized the continued shortage of nursing and paramedical personnel, including 1,619 Unfilled Budgeted Positions for Registered Nurses; 923 for Licensed Practical Nurses; 60 for Medical Record Librarians; 57 for Radiologic Technologists; 153 for Medical Technologists; 83 for Dietitians; 60 for Physical Therapists; and 37 for Occupational Therapists. Sixty budgeted faculty positions in Schools of Nursing are also vacant.

One of the key obstacles to expansion of training programs is the shortage of qualified teachers in Schools of Nursing and, unfortunately, the universities in the state fall far short in providing adequate training programs for potential faculty in Schools of Nursing.

The Committee welcomes establishment of refresher courses for inactive nurses at many Missouri hospitals, but it, on the other hand, convinced that this step alone will be inadequate by a wide margin of providing for future personnel needs.

It is the feeling of the Committee that the Missouri State Medical Association should call for gubernatorial action as follows:

1. Direct gubernatorial request to the Board of Curators of the University of Missouri that the Master's Degree program in nursing be not only reactivated as planned in the fall of 1968, but that it also be significantly enlarged in scope. Also, that the Curators and Trustees of all state-operated institutions of higher learning direct that nurse education programs be either instituted or, if in existence, be enlarged.

2. Similar urgent pleas, with offers of assistance (where called for and feasible) be directed to the private institutions of higher learning in Missouri.

3. A direct gubernatorial request to the state-controlled institutions of higher learning to set up special training programs for discharged veterans of the medical service branches with emphasis on fields in which past experiences can be optimally utilized and with consideration being given to credit for past training and experience. Special incentives should be provided to emphasize such fields for which male nurses are particularly suitable, such as psychiatric nursing, GU nursing, emergency room technology, intensive care units and coronary care units.

4. Demands should be made by the governors of the various states that the federal government make serious efforts to encourage medical service personnel about to be discharged from the Armed Services to pursue careers in the nursing and paramedical fields. If adequate training facilities and credit allowances for past experience and training can be made available to such persons a considerable source of effective new career personnel could be obtained.

The Committee is most gratified by the enthusiastic cooperation given by the Auxiliary of the Missouri State Medical Association in operation of its Medical Careers Program and we are grateful for the operation of the Clearing House by its representative. It is felt that recruiting activities can most successfully be pursued at the grass roots level.

The Committee recommends that the Missouri State Medical Association approve continued operation of the Clearing House, continued support of activities conducted on a local level by the Medical Careers Chairmen of the local Auxiliary Chapters and that gubernatorial action be urged to increase supply of available nurse manpower in Missouri. The Committee again wishes to emphasize the need for medical support of adequate pay scales for professional nursing personnel.

John H. Walters, Chairman
Manning E. Grimes
Joseph Cope
James M. Flynn
A. J. Signorelli

REPORT OF THE COMMITTEE ON TUBERCULOSIS

A meeting of the Committee scheduled for January 14, 1968 was cancelled due to inclement weather. The Committee, during the past year, refined "Guide for Care of Post-Sanatorium Patients" written by Sheldon Beecher, M.D. Final revision was made using the latest publications of the American Thoracic Society and National Tuberculosis Association. The Guide will be offered for publication about March, 1968, to MISSOURI MEDICINE and MISSOURI FAMILY DOCTOR.

The Committee supported a three-day symposium, "The Rational Therapy and Control of Tuberculosis," February 14-16, 1968, sponsored by the Schools of Medicine of St. Louis and Washington Universities and St. Louis City Department of Health in cooperation with the United States Public Health Service, Tuberculosis Program, including publicity in MISSOURI MEDICINE. Paul Murphy, M.D., served on the Planning Committee for this symposium and Florence E. MacInnis, M.D., will serve as a participating speaker.

Florence E. MacInnis, Chairman
Paul Murphy
William J. Gillespie
James F. O'Malley
I. J. Flance
John W. Polk
Sheldon B. Beecher
Judson I. Chalkley
C. A. Brashear

REPORT OF COMMITTEE ON RURAL MEDICAL SERVICE (SPECIAL)

The Committee on Rural Medical Service of the Missouri State Medical Association at their meeting October 8, 1967, at Jefferson City, considered the following:

1. Recommended approval of the American Medical Association Rural Emergency Medical Services Plan and recommended approval by the Council of the MSMA for the American Medical Association five-point Rural Medical Services Plan with amendments.

2. Recommended for Council approval support by the MSMA of the American Medical Association First Aid Training Program at the county society level in collaboration with the University of Missouri Extension Plan, Missouri Health Mobilization of the Missouri Division of Health, and the Red Cross. The Committee suggested endorsement of the First Aid Training Program be published in MISSOURI MEDICINE and letters to be sent to all county society, presidents and secretaries.

3. Recommended Council approval in order that the Rural Medical Service Committee might study, approve, recommend, and provide leadership in the Medical Health Program of the 4-H groups in cooperation with the University of Missouri Extension Division.

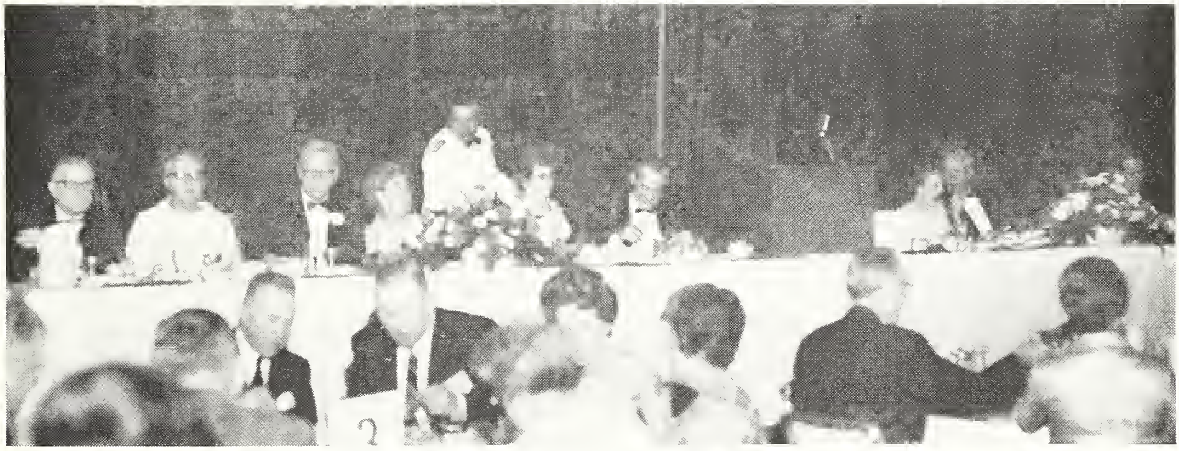
4. The Committee approved a suggestion that a letter encouraging the use and promotion of the "Slow Moving Vehicle Emblem" to the farm population of the State of Missouri, be sent to the various farm organizations such as MFA, Farm Bureau, etc., who are active in the state and to farm journals requesting the publication and the encouragement of the use of this nationally approved emblem.

We are still in the process of attempting to find various ways to effectively promote first aid training so that it may be available readily by trained families throughout this state for rural accidents at any time. One of the methods now being investigated is the use of Combined Driver Training Programs and a First Aid Training Program within the school systems of this state.

Charles A. Worley, Chairman
B. J. Bass
James H. Sweiger
K. S. Latham
H. F. Hoelscher
James E. Campbell
T. M. MacDonnell
Charles C. Reeder

THE FOLLOWING COMMITTEES . . .

Had no assignments or meetings during the past year and have no formal reports to make to the House of Delegates. Many members of these committees were



The head table at the 1968 President's Banquet. *(Left to right)* Dr. Robert W. Forsythe, President of the Jackson County Medical Society, and Mrs. Forsythe; Dr. David N. Kerr, President-Elect, and Mrs. Kerr; Mrs. Hector W. Benoit, Jr., and Doctor Benoit, President; Mrs. Doyle C. McCraw and Doctor McCraw, Council Chairman; Mrs. E. F. Butler (partially hidden by the bouquet), President of the Woman's Auxiliary, and Doctor Butler. Mr. Bill Vaughan, speaker of the evening, is hidden by the lectern.

busy, however, keeping informed in their area of interest, representing the Association at meetings and conferences, and assisting in arranging programs for both medical and lay groups. The Committees on Medical Economics, Maternal Welfare and Medicine and Religion are sponsoring parts of the program for this Annual Session of MSMA.

ANESTHESIOLOGY

CANCER

INDUSTRIAL HEALTH (SPECIAL)

MEDICAL DEFENSE

MEDICAL EDUCATION AND HOSPITALS

MEDICAL-LEGAL

PHYSICAL MEDICINE AND REHABILITATION

RADIOLOGY AND IONIZING RADIATION

STUDY OF CARDIAC DISEASE (SPECIAL)

TRAUMA

The Speaker noted that minutes of the Council meetings during the past year and Council recommendations were published in the handbook. He referred various matters from the Council proceedings to appropriate committees.

THE COUNCIL

Meeting of April 9, 1967

Hector W. Benoit, Jr., M.D., President of MSMA, called the meeting to order. Those present were: Drs. Benoit; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, St. Louis County; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar; W. D. English, Cardwell; Byron M. Stuart, Boonville; Walter T. Gunn and Max S. Franklin, St. Louis; Messrs. John W. Noble, Kennett; Lemoine Skinner and Jordan Singleton, St. Louis; Allen Smith and Ray McIntyre, Jefferson City.

Dr. Benoit introduced Dr. Walter T. Gunn, the new Councilor from the 3rd District who was elected to fill the unexpired term of David N. Kerr, President-elect of MSMA. Congratulations were extended to Drs. Bach, Mayer, Wray, McCraw and English, the Councilors from the 2nd, 4th, 6th, 8th and 10th Districts respectively, who were re-elected.

Dr. Doyle C. McCraw was nominated and elected Chairman and took over as presiding officer.

Dr. Joseph Fisher was nominated as Vice Chairman and on motion, duly seconded was elected. Dr. Matthews was nominated Secretary, and on motion, duly seconded, was elected. Dr. Max S. Franklin was nominated Treasurer and on motion, duly seconded, was elected.

Mr. Skinner, who had met with Mr. Seeds of the AMA Field Service Division to formulate a letter to be sent to Missouri Members of the House of Representatives in Congress, reviewed the proposed letter regarding H.R. 5710, amendments to the Medicare Law. A discussion followed regarding the length of the letter and suggestions that certain portions be deleted and sent as a follow-up, etc. On motion of Dr. Kerr, duly seconded, it was agreed that the letter be forwarded to the AMA for their comment and suggestions and then be sent to Missouri Members of Congress.

Dr. Neilson reported that the name of Vernon E. Wilson, M.D., Columbia, had been submitted to the Board of Trustees of AMA for nomination to membership on the Council on Medical Education of the AMA to replace Dr. Wescoe. He asked that the MSMA endorse this nomination and send an official letter to Dr. Blasingame to this effect. On motion of Dr. Benoit, duly seconded, it was agreed that an official letter of endorsement of Dr. Wilson be sent to Dr. Blasingame.

Dr. Neilson stated that he would like to meet with members of the staff and Council to prepare resolutions for presentation at the AMA Annual Session in June.

In a discussion regarding the dates of the next Council meeting, attention was called to the fact that a number of items had been referred to the Council from the House of Delegates, especially regarding the Medical Economics Committee report, and that the Medical Economics Committee was urged to meet as soon as possible. On motion of Dr. Kerr, duly seconded, it was agreed that the next meeting of the Council would be held on May 6, 7, 1967, the place to be designated later, and that the Medical Economics Committee, with representatives of specialty groups, meet prior to the Council meeting and report to the Council.

Attention was called to the action of the House of Delegates regarding the St. Louis Blue Cross Resolution which was referred to the Council or appropriate committee for clarification. Dr. Benoit moved that this Resolution be referred to the Medical Economics Committee and include the amendment written by Dr. McCoy and read by Dr. Gunn (amendment for Dr. McCoy's Reference Committee Report on Resolutions which was not presented to the House of Delegates). After discussion and consideration, Dr. Benoit's motion was withdrawn. On motion of Dr. Miller, duly seconded, it was agreed that the President appoint an ad hoc committee to study the problem of Blue Cross Hospital Service in St. Louis and that the Chairman of the Medical Economics Committee be appointed to this committee.

Dr. Miller introduced the subject of the resolution requesting a study "in depth," which also involved investigation of problems concerning Missouri Medical Service, Inc., and suggested that an ad hoc committee be formed to study this matter and likewise report to the Council and that a representative of the Medical Economics Committee be represented on this committee, preferably the Chairman. On motion and vote, the motion was defeated. After discussion, however, on motion of Dr. Mayer, seconded by Dr. Kerr, it was agreed that the problem of Missouri Medical Service be referred to the Medical Economics Committee and that additional personnel be appointed by the President if desirable, to assist the committee in its study. The motion was approved. After further discussion, on motion of Dr. Benoit, it was decided that the Council, as a group, and individual members of the Council stimulate individual specialty groups to meet and select a representative to attend a meeting of the Medical Economics Committee regarding third party contracts and fee schedules. The motion was seconded by Dr. Kerr and approved.

After a discussion on parliamentary procedure, Dr. Kerr moved that the Council reconsider the action taken at the Council meeting on Thursday, April 6, which defeated proposed approval of an amendment of the Chiropractic bill which states that chiropractors could be included under this act if they had a case referred to them by a member of the medical profession (Workmen's Compensation Bill). The Chairman asked for a vote to reconsider the above action. The vote was six in favor of reconsideration and four opposed. The motion was approved. After considerable discussion and on motion of Dr. Gunn, duly seconded, it was agreed that the Council reitterate its stand taken on Thursday morning to oppose this amendment and, also, oppose the bill.

Dr. Benoit announced the following committee appointments:

Public Service Committee—Joseph L. Fisher, St. Joseph, Chairman; Armand Brodeur, St. Louis; Kenneth Glover, Mount Vernon; David N. Kerr, St. Louis; Hector W. Benoit, Jr., Kansas City.

Legislative Matters—John I. Matthews, Jefferson City, Chairman; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; David N. Kerr, St. Louis; Hector W. Benoit, Jr., Kansas City. Associate Members: Stanley S. Peterson, Springfield; J. L. Washburn, Versailles.

Meeting of May 6, 7, 1967

Doyle C. McCraw, M.D., Bolivar, Chairman, called the meeting to order. Those present were: Drs. McCraw; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; Robert A. Mayer, St. Louis County; Rolla B. Wray, Nevada; James C. Cope, Columbia; Gerald L. Miller, Kansas City; E. A. Stricker, St. James; W. D. English, Cardwell; Hector W. Benoit, Kansas City; David N. Kerr, St. Louis; Max S. Franklin, St. Louis; Byron M. Stuart, Boonville; J. L. Washburn, Versailles; Arthur W. Neilson, St. Louis; Richard H. Kiene, Kansas City; Vernon E. Wilson and William C. Allen, Columbia; Herbert C. Wiegand, St. Louis; Ned Smull and Robert Forsythe, Kansas City; Messrs. John W. Noble, Kennett; Gary Schnedler, Springfield; Edgar Mothershead, St. Louis County; Hollister Smith, Lemoine Skinner, Jordan C. Singleton and Thomas R. O'Brien, St. Louis; Thomas P. Fox, Allen Smith and Raymond McIntyre, Jefferson City.

Dr. McCraw requested approval of the minutes of the Council meetings which were held during the Annual Session, copies of which had been distributed to the Councilors and Officers and Secretaries of County Medical Societies. On motion of Dr. Stuart, duly seconded, the minutes were approved.

The Executive Secretary reported on the attendance at the Annual Session, stating that 688 M.D.'s had attended. This represented a 10% increase over the last meeting held in St. Louis in 1965. He stated that the total attendance of 1,253 included physicians, the Woman's Auxiliary, Technologists and Exhibitors and guests. He also mentioned a number of letters received from guest speakers complimenting the Association on its very good program, well-attended sessions and smoothly executed meeting.

Mr. McIntyre also stated he had received a notice from the AMA emphasizing that the first session of the AMA House of Delegates would be held at 10:00 AM on Sunday, June 18, in Chalfonte-Haddon Hall, Atlantic City. He also mentioned a request received from the AMA Council on Foods and Nutrition concerning a series of lectures and clinical sessions on nutrition to be presented at various colleges in Missouri and requesting the State and County Medical Societies to co-sponsor the series. He said no expense would be involved. On motion of Dr. Miller, duly seconded, it was agreed that the State Medical Association co-sponsor these lectures and clinical sessions.

Council Chairman Doyle C. McCraw, President-Elect David N. Kerr and Council Vice-Chairman Joseph L. Fisher visit as they wait for the March 27 Council meeting in Kansas City to begin.

Dr. Kerr reported that he had represented the Missouri State Medical Association at a luncheon in St. Louis where he presented checks received from the AMA-ERF fund to the three medical schools. He stated that Dr. Felix of St. Louis University School of Medicine, Dr. Herweg of Washington University School of Medicine and Dr. Colwell of the University of Missouri School of Medicine were present to accept the checks for their respective schools. St. Louis University School of Medicine received $14,075; Washington University School of Medicine, $12,218; and the University of Missouri School of Medicine, $4,586.

Mr. McIntyre said that a letter had been sent to the AMA over Dr. Benoit's signature endorsing the nomination of Dr. Vernon E. Wilson for the Council on Medical Education of the AMA and a reply had been received stating that this item would be brought to the attention of the Board of Trustees when it considers nominations to the AMA House of Delegates for this Council in June.

He also mentioned that a letter had been received from the AMA requesting that a representative be appointed to attend a meeting of the AMA Committee on Nursing to be held October 6, 1967 at the AMA Headquarters and stating that expenses would be paid by the AMA. On motion of Dr. Benoit, duly seconded, it was agreed that Dr. John Walters, Chairman of the MSMA Committee on Nursing and Paramedical Personnel, be requested to attend this meeting on behalf of the MSMA.

It also was reported that Dr. Hugh E. Stephenson of Columbia attended the Inauguration Ceremonies for Dr. John C. Weaver at the University of Missouri as the official representative of both the AMA and MSMA.

Dr. Franklin gave a brief report on the financial status of the Association as of April 30, 1967, stating that the balance on hand was $122,404.98, exclusive of the investment account. Discussion followed regarding the amount of cash in the Treasurer's account and the possibility of investing some of it in short term investments. It was decided to investigate this matter after all the Annual Session bills have been paid. After discussion and on motion of Dr. Kerr, duly seconded, the report of the Treasurer was accepted and approved.

Dr. Benoit called attention to the two resolutions regarding problems with Blue Cross which were referred to the Council by the House of Delegates and which were discussed at the last meeting of the Council on April 9. The Council decided at that time that the President should appoint an ad hoc committee of the Council to study this matter. Dr. Benoit appointed the following members: Drs. Walter Gunn, St. Louis, Chairman; Lysle M. Bach, Hannibal; Robert A. Mayer, St. Louis County; James C. Cope, Columbia; W. D. English, Cardwell; E. A. Stricker, St. James; and Kenneth Glover, Mount Vernon. On motion of Dr. Kerr, duly seconded, this Committee was approved.

Mr. Fox presented the report of the Committee on Medicine and Religion which met in St. Louis during the Annual Session on April 8, at which time plans were made for a fall meeting of representatives of each of the component societies of the state organization. The speakers, subject and time were to be announced later.

It also was reported that Dr. Kenneth Glover, Mt. Vernon, Chairman of the Committee, had requested time on the 1968 Annual Session for a regular program for medicine and religion sponsored by the Committee.

Dr. McCraw pointed out that the Committee on Medicine and Religion was a special committee appointed by the Council in 1963 and that the same committee had been functioning since that time with the exception of the chairman. Dr. Whitener, the original chairman, stepped down when he became President of the Association. He asked that Dr. Glover be appointed chairman and that he remain a member of the committee. It was recommended that Dr. Douglas Ries, St. Louis, be appointed as a member of the committee to replace Dr. Wayne Gorla and that Dr. Troy Morgan, Albany, also be appointed to the Committee. On motion of Dr. Kerr, duly seconded, Drs. Ries and Morgan were appointed as new members of the Committee on Medicine and Religion with other members reappointed as follows: Drs. Kenneth Glover, Chairman; Paul R. Whitener, St. Louis County; Robert Myers, Kansas City; Morris Alex, St. Louis County; and Robert Duncan, Springfield. On motion of Dr. Kerr, duly seconded, the report of the Committee on Medicine and Religion was accepted and referred to the Scientific and Postgraduate Committee for consideration of the request to participate in the 1968 Annual Session program.

Mr. Noble explained the IRS proposal to tax advertising revenues of Non-Profit Associations, stating that Associations were given 30 days in which to file a statement (by May 15, 1967). A letter from MSMA was written to the Commissioner of IRS requesting an extension of at least 60 days in which to file a statement of comments, but to date no reply had been received. Mr. Noble explained that the proposal was aimed at income from publications which would be taxable when defined as unrelated. He also explained that the Association could request permission to appear at a hearing before the Commissioner. He stated that if a reply to the MSMA letter was not received soon, suggestions should be compiled and filed which would include a specific example for MSMA and component societies' exclusion under the proposed regulations. He suggested that a request be made of the Commissioner to appear at the hearing, the date of which has not yet been determined. It was suggested that the President of the Association should appear and present the Council's views and position on these regulations. After discussion and on motion of Dr. Stuart, it was agreed that the Association follow the suggestions of our legal counsel which included empowering the President and legal counsel to go to Washington to attend this hearing. Also, it was agreed that MSMA's component societies be requested to file similiar statements.

Dr. Wilson discussed a proposed Regional Medical Program in regard to Heart, Cancer and Stroke using the computerized interpretation of electrocardiograms. He stated that the University was requested by the U. S. Public Health Service, Division of Chronic Diseases, to make field tests using the computer in rural areas where there are no facilities for getting immediate interpretation of electrocardiograms. He stated that the Regional Medical Program office would like to see the University of Missouri undertake this project and would provide the financing for a period of a year or two, after which time it would be self-supporting. He stated he would like to have the opinion of the MSMA Council in regard to whether or not it should be tried in Missouri. He said plans were to have from five to seven testing areas in the State of Missouri. He said the University of Missouri would simply provide the service. If any consultation were needed, it would be referred to a cardiologist in that area. Dr. Wilson stated he would like to see Missouri try the plan. After discussion and on motion of Dr. Cope, seconded and amended by Dr. Kerr, it was agreed that the Council approve this project with the understanding that progress reports will be made to the Council at regular intervals.

Dr. McCraw called attention to several resolutions which were referred to the Council for further study, clarification or disposition, as follows:

1. Resolution presented by the Boone County Medical Society regarding Dr. C. Walton Lillehei of Minneapolis, Minn., whose photograph, name and a listing of medical achievements were used as an advertisement in a national magazine. After discussion and on motion of Dr. Gunn, duly seconded, it was agreed that a letter should be written to the Minnesota State Medical Association to learn what official action they have taken in the matter.

2. Resolution introduced by the St. Louis County Medical Society regarding election of officers on September 30. After discussion and on motion of Dr. Benoit, duly seconded, it was agreed that a recommendation be made to the Committee on Constitution and By-Laws that in Chapter III, Section 2, line 4 of the By-Laws, the word "members" be changed to "memberships," so that it would read: "Each component county society shall be entitled to send each year one delegate or one alternate to the House of Delegates for each fifty full paid memberships. . . ."

3. Resolution introduced by Jackson County Medical Society regarding Reaffirmation of Participation in Title

(Continued on page 505)

XIX by the State of Missouri. Mr. McIntyre reviewed the resolution of Jackson County and the House action in 1966 regarding the health care of the needy and the near-needy and reported that legislation in regard to the near-needy was approved by the legislature but vetoed by the Governor in 1963. After discussion, it was decided to refer this resolution to the Chairman of the Legislative Committee and our legal counsel for clarification, and action was deferred on the resolution until Sunday morning. After discussion on Sunday, the resolution was amended as follows:

> *Whereas,* The House of Delegates of the Missouri State Medical Association assembled in Annual Session in 1966 did, by resolution, endorse in principle enactment of legislation similar to the present Title XIX of the Social Security Act, and
>
> *Whereas,* Events during the ensuing year have tended to support the validity of that action, now therefore be it
>
> **Resolved,** That the Missouri State Medical Association reiterate and reaffirm its endorsement of the principle that the State of Missouri should participate in the benefits provided by Title XIX of the Social Security Act to the extent that such benefits are economically sound and medically feasible.

After discussion and on motion of Dr. Benoit, duly seconded, the resolution was approved as amended.

The fourth item referred to the Council by the House of Delegates regarding the amended MSMA Medical Economics Committee Report of February 12 was tabled until Sunday to await the arrival of Dr. Wiegand.

Mr. Skinner reviewed the letter which had been sent to Missouri representatives of the House of Representatives in Washington over Dr. McCraw's signature and stated that the letter was accompanied by a copy of Dr. Benoit's address to the House of Delegates and copies of resolutions adopted by the House of Delegates regarding revisions of P.L. 89-97. Mr. McIntyre presented replies received from Reps. Hungate, Randall, Bolling and Ichord.

Dr. Matthews reviewed a number of bills of particular interest to medicine which are being considered by the 74th General Assembly. He reviewed H.B. 736 and 737 which deal with Title XIX. After discussion and on motion of Dr. Kerr, duly seconded, it was agreed that the Legislative Committee study these bills from the standpoint of inclusion of such statements as "usual, customary and reasonable" fees and other desirable wording and act accordingly.

S.B. 74, which relates to a seven member Board of Health, was discussed. On motion of Dr. Benoit, duly seconded, it was agreed that the President of the State Medical Association, as a member of the State Advisory Committee, request a meeting with the Governor and seek his help in getting the bill passed. The Chairman of the Council would be invited to attend the meeting.

H.B. 152 (Physical Therapy Licensure). It was reported that this bill was referred to the Public Health and Welfare Committee and that a hearing for proponents of the bill had been held, but that a hearing for opponents has not as yet been set.

H.B. 548 dealing with Chiropractors under the Workmen's Compensation Law was discussed.

S.B. 63 (Hallucinogenic Drugs Regulation) has passed the Senate and is in the House Public Health Committee. It was noted that Dr. Guhleman will appear in support of this bill as representative of MSMA.

S.B. 302—Internship Bill was discussed as well as S.B. 389, which would authorize the Division of Health to set standards for clinical laboratories.

H.B. 440—Medical Examiner System is waiting for Senate Committee assignment.

H.B. 734, relating to Home Health Services, authorizes local health units to provide certain home health services. This bill is on the Perfection Calendar of the House.

S.B. 356—Liberalization of the Abortion Laws. Dr. Matthews stated that MSMA may be asked to take a position on this bill very soon and requested the Council to decide what should be done. It was decided to get copies of the bill for study and consideration. (Discussion on this bill was resumed on Sunday and it was decided to send copies of the bill to the Maternal Welfare Committee for study.)

Dr. McCraw thanked Dr. Matthews for the excellent work of his Committee.

Dr. Matthews reported that it was necessary for MSMA to report to the Chase Hotel regarding the dates being held for the Annual Session in 1969. He mentioned that a decision had to be made in regard to whether we should go back to the Sunday through Wednesday schedule or continue to meet during the latter part of the week, i.e., Friday through Sunday, as we did in 1967 and plan to do in 1968. It was pointed out that we would be in a better position to decide after the 1968 session, but that with so many conventions being scheduled, a decision had to be made in order to get suitable dates. After discussion, it was decided to notify the Chase Hotel that MSMA would accept the dates of Thursday through Sunday, March 20-23, 1969.

Dr. Fisher, Chairman of the Public Service Committee, had requested information from Dr. McCraw, the former chairman, regarding ideas which might improve relations with new members, better liaison between MSMA and the membership, etc. A number of ideas were presented and discussed, including the idea for an annual conference of key officers of local county societies for one or two days to discuss the duties of their offices, orientation of new members and information concerning organized medicine—what it is, what it is trying to do and its programs. After considerable discussion and on motion of Dr. Benoit, duly seconded, it was agreed that the Public Service Committee meet as soon as feasible with the staff to discuss the ideas and develop definite plans for a meeting in the Fall and that the Public Service Committee be authorized to activate such plans.

Dr. Wiegand reported on the Medical Economics Committee meeting held in St. Louis on April 30, the purpose of which was to invite representatives of specialty practice groups for study of third party fee contracts and to formulate plans for a MSMA Medical Economics Contract Committee. He gave a resume of the number of specialties represented and the basic points discussed at the meeting, included the need for a study of relative value fee schedules, acceptable definitions of "Usual," "Customary," "Reasonable" and "Prevailing Fee" concepts. Discussion regarding the formation of the Medical Economics Contract Committee followed and Dr. Wiegand recommended to the Council that the composition of this committee should include the entire Medical Economics Committee because of their knowledge of the

Mr. Bill Vaughan, internationally-syndicated columnist and humorist, won the hearts and laughs of the guests at the President's Banquet with his original and humorous comments about physicians and medicine. His "good natured kidding" was received with enthusiasm.

situation. On motion of Dr. Miller, seconded by Dr. Benoit, it was agreed that the Medical Economics Contract Committee be composed of the Medical Economics Committee in its entirety, with the Chairman of the Medical Economics Committee chairing the Medical Economics Contract Committee, and a representative from each of the specialty groups of medicine, plus the President and Chairman of the Council of MSMA, ex-officio. It was further agreed that the Contract Committee establish a Negotiating Committee which would include the Chairman of the Medical Economics Committee, the President and Chairman of the Council of MSMA and one or two specialty group members who would be familiar with the situation to negotiate MSMA involved third party contracts with the aid of MSMA legal counsel.

Dr. Wiegand introduced the subject of replacing this ad hoc committee status with possible sections on specialty practice, following the example of AMA. It was pointed out that this would require a change in the Constitution and By-Laws. After discussion and on motion of Dr. Kerr, duly seconded, it was agreed to refer this latter matter to the Committee on Constitution and By-Laws with instructions to study the feasibility of changing the By-Laws to set up specialty sections and report to the House of Delegates. On motion of Dr. Miller, duly seconded, the report of the Medical Economics Committee was accepted and Dr. Wiegand was thanked for his efforts.

Dr. McCraw introduced Dr. Ned Smull, Medical Director of Children's Mercy Hospital in Kansas City, and Dr. Robert Forsythe, President-elect of Jackson County Medical Society, who appeared before the Council to report on the OEO program being proposed in the Jackson County area by the Human Resources Corporation. They explained that this is a crash program being planned without consultation with the Jackson County Medical Society or with the existing medical facilities already available. They mentioned that Jackson County Medical Society had not received a formal invitation to attend any of the meetings, and it was stated that the Council of Kansas City, Missouri, accepted the proposal.

Dr. Benoit mentioned that the same efforts were made in Denver, Boston and Detroit and it was reported that a similar effort called the Model City Program, was being made in St. Louis. After considerable discussion and on motion of Dr. Miller, duly seconded, it was agreed that the Council direct our AMA Delegates to take immediate steps to contact the staff of the AMA to conduct an intensive study of the programs in Boston, Denver, Detroit and Kansas City, etc., and that a report of these activities be prepared under the direction of OEO for presentation at the AMA meeting in June so that proper action may be taken.

Dr. Neilson presented copies of resolutions which had been prepared for introduction at the AMA Annual Session in June by the Missouri Delegation, as instructed by the House of Delegates of MSMA, for Council approval as follows:

1. Signing of Certification and Recertification Forms. This resolution urges that the AMA continue to work constantly toward amending P.L. 89-97 to remove the requirements for certification and recertification of hospitalized patients. On motion of Dr. Miller, duly seconded, this resolution was approved for presentation to the AMA House of Delegates.

2. Insurance Payment for Certain Diagnostic Procedures and Minor Surgery when performed in office and hospital out-patient department rather than requiring hospitalization. After discussion, on motion of Dr. Fisher, the resolution was approved as amended. The amendment is as follows:

> "**Resolved,** That the American Medical Association through its *Councils* consult with the American Hospital Association, and the various State Hospital Associations and consult with insurors in an effort to change their policy of insurance coverage so that payment can be made for diagnostic procedures and minor surgery performed in the physician's office *and/or* in the hospital out-patient department."

3. Dealing with Collection of Medicare Fees by Institutions. After full discussion by members of the Council and our AMA Delegates, it was agreed that the AMA Delegates introduce the resolution at the June AMA Session as directed by the MSMA House of Delegates. The resolution reads as follows:

> "*Whereas,* In at least one instance it appears that the fees to which physicians may be entitled under Part B, Title XVIII, and Title XIX of Public Law 89-97 must be assigned to an institution involved in the care of medically indigent patients, and
>
> *Whereas,* Physicians are assigned to the care of patients in teaching programs in the training of resident physicians, and
>
> *Whereas,* The practicing physicians have been threatened with dismissal from the institution if they fail to comply with the assignment of their Medicare fees to the institution, therefore be it
>
> **Resolved,** That a physician is the sole arbiter of the disposition of fees to which he is entitled, and that

institutions which expel a physician for failure to assign his fees to them be removed from the list of accredited training programs."

4. American Medical Association "Depth" Study of Social, Political and Economic Factors Effecting Medical Care. This resolution was read and discussed, and on motion, duly seconded, was approved.

5. Part C—Medicare. This resolution deals with certain proposed Social Security Amendments of 1967 and Part C of Medicare which would segregate physicians' services which are now covered under Part B of Medicare. Dr. Neilson asked Council approval to prepare this resolution based on the resolution passed by the MSMA House of Delegates on Anesthesiology. On motion of Dr. Gunn, duly seconded, approval was granted.

Dr. Washburn asked for Council approval to send a letter to all the AMA Delegates requesting their support of Dr. Vernon E. Wilson for membership on the AMA Council on Medical Education. On motion, duly seconded, this request was approved.

Dr. Neilson expressed the hope that the alternate delegates would attend the AMA session in order to help attend reference committee meetings and other duties. It was pointed out that if the alternate delegates were expected to attend these meetings, their expenses should be paid as well as the delegates' expenses. After discussion and on motion of Dr. Miller, duly seconded, it was agreed that the Council direct the Budget Committee to provide expenses for travel and hotel accommodations for alternates to the AMA meetings. On motion of Dr. Stuart, this was amended to read, ". . . to pay the alternate delegates expenses this year and to recommend to the Budget Committee to include this additional expense in the future budgets." On motion, duly seconded, the amended motion was accepted.

The Councilors reported on various activities in their respective districts.

At the invitation of Dr. Kerr, the President-Elect, it was agreed to have the next meeting of the Council in St. Louis on September 16, 17, 1967.

Meeting of September 16, 17, 1967

Doyle C. McCraw, M.D., Bolivar, Chairman, called the meeting to order. The following persons were present: Drs. McCraw; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; E. A. Stricker, St. James; Hector W. Benoit, Jr., Kansas City; David N. Kerr, St. Louis; John I. Matthews, Jefferson City; Max S. Franklin, St. Louis; Byron M. Stuart, Boonville; A. W. Neilson, St. Louis; Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; William C. Allen, Columbia; Richard W. Yore, St. Louis; Messrs. John W. Noble, Kennett; Arthur W. Seeds, Chicago; Jordan Singleton, Hollister Smith, T. R. O'Brien, St. Louis; Allen D. Smith, Kansas City; Gary Schnedler, Springfield; Don Brummall, Tom P. Fox and Ray McIntyre, Jefferson City.

The Chairman requested approval of the Council minutes of May 6, 7, 1967 which had been distributed in the usual manner. On motion of Dr. Mayer, duly seconded, the minutes were approved.

The Chairman read a telegram from Dr. W. D. English of Cardwell regretting his absence because of the illness of Mrs. English. The Executive Secretary was directed to write a letter to Dr. English expressing the Council's concern and best wishes.

Dr. Neilson, AMA Delegate, reported on the six resolutions submitted by the Missouri Delegation to the AMA Annual Session held in Atlantic City in June, 1967. The outcome of the MSMA's six resolutions is as follows:

Resolution 28: AMA Policy Regarding Government Medical Care Programs. The Reference Committee stated they were in accord with the intent of Resolution 28, but recommended a substitute resolution embodying the basic principles of the original. The substitute was adopted.

Resolution 33: Insurance Payment for Certain Diagnostic Procedures and Minor Surgery When Performed in Office and Hospital Out-Patient Departments Rather than Requiring Hospitalization. This resolution was considered by Reference Committee A which reported they were not convinced of the accuracy of all statements contained in the "*Whereas*" portion of this resolution and could not endorse all the actions recommended in the Resolve. However, the MSMA Delegation, by use of a motion from the floor and a voice vote of the House, was able to refer this resolution to the Board of Trustees and the Council on Medical Service for further consideration.

Resolution 29: Collection of Medicare Fees by Institutions. This was referred to Reference Committee D and adopted by the House with slight language change.

Resolution 31: Signing of Certification and Recertification Forms was considered in Reference Committee D.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

Eggert-Carroll-Schroeder Agency, Inc.
111 North Fourth St., St. Louis, Mo. 63102
(Eastern Missouri Administrators)

Altman-Singleton & Co.
114 W. 10th St., Kansas City, Mo. 64105
(Western Missouri Administrators)

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Six resolutions from various states also were submitted on this same subject and all were considered together. The Reference Committee recommended embodying the intent of these several resolutions in a resolution of broader scope, which was adopted.

Resolution 30: AMA Study of Social, Political and Economic Factors Affecting Medical Care. After consideration by Reference Committee F, this resolution was referred to the Board of Trustees and the new AMA Committee on Planning and Development.

Resolution 32: Proposed Out-Patient and Diagnostic Specialty Benefits (Part C-Medicare). The Reference Committee rejected the Part C concept and forcefully stated its position that hospital-based specialists should remain under Part B of the program. This was adopted.

Dr. Neilson called attention to the AMA Policy on Therapeutic Abortion and suggested that the Council may wish to study this statement and, perhaps, refer it to the proper committee for further study.

Dr. McCraw thanked Dr. Neilson for his report and stated that the Delegates and Alternates to the AMA did an outstanding job at the AMA Annual Session and that Missouri was well represented.

On motion, duly seconded, Dr. Neilson's report was approved.

Dr. Franklin presented the Treasurer's Report as of August 31, 1967, showing total receipts and disbursements for the period January 1 through August 31. He mentioned that in previous action it was decided to invest some of the money in the checking account in short term investments. He reported that this had been done and would be a continuing policy. After discussion, on motion of Dr. Benoit, duly seconded, the Treasurer's report was approved.

Mr. McIntyre reported on correspondence with the Minnesota Medical Association concerning a resolution referred to the MSMA Council by the House of Delegates involving a member of that Association with an advertisement in a national news magazine.

He also reported that the expenses of all four Alternate Delegates to the June AMA meeting were paid, as well as those of the Delegates, as per Council action in May.

Mr. McIntyre reported on a request received from the Wisconsin Medical Society promoting a postage stamp in commemoration of Dr. William Beaumont who also practiced in Missouri and is buried here. A resolution to be sent to the Postmaster General requesting this postage stamp on the 150th Anniversary of Dr. Beaumont, 1852-1972 was read. On motion of Dr. Kerr, seconded by Dr. Benoit, it was agreed that a letter be written to the Postmaster General indicating support of MSMA and it was suggested that St. Louis Medical Society also might like to do the same thing on their own.

Mr. McIntyre called attention to the Resolution regarding MMPAC Joint Dues billing which was passed by the 1967 House of Delegates. He stated that a letter had been sent to all county society secretaries with a copy of the resolution and requesting them to let the MSMA Headquarters Office know if they did not wish to have voluntary MMPAC dues included on their annual dues notices. It was reported that replies had been received from several county medical societies indicating they did not want MMPAC dues included.

St. Louis County reported that they were willing to have a separate billing form included with their bills with a return envelope addressed back to MMPAC, and St. Louis Medical Society reported they were willing to accept this same procedure.

Mr. O'Brien reported briefly on the activities of MMPAC last year.

On motion of Dr. Cope, duly seconded, it was agreed to try using the joint billing for those societies that are willing to go along with this method and enclose separate bills with an MMPAC return envelope in the counties who do not wish to have the joint billing.

Mr. McIntyre then reported that Allen Smith is now Executive Secretary of the Jackson County Medical Society and expressed his appreciation for the excellent service Allen had given the Association during the past three years. He then introduced Don Brummall as a new Executive Assistant to MSMA who began his duties with the Association as of September 1, 1967.

Dr. McCraw welcomed Allen Smith to the Council meeting as a representative of Jackson County Medical Society. On motion of Dr. Kerr, duly seconded, the Council gave a vote of thanks to Allen Smith for his work with the Association during the past three years and wished him success in his new position.

On motion, duly seconded, the Secretary's Report was approved.

Mr. Fox reported on the financial status of the MSMF stating that 65 medical student loans were approved for the current year in the amount of $38,725.00. The total amount of money on hand is $36,846.95 which includes a time deposit for six months of $19,084.00.

Dr. Benoit reported that a meeting of the Board of Trustees of the Missouri State Medical Foundation was held on Friday evening, September 15, with a review and approval of the Foundation activities. He stated that over a five-year period, the program has loaned money to 198 students for a total of 472 loans. In that time, one recipient died with the loan repaid through insurance. He stated due to increased cost to students, more money would be needed in the next several years and that since the $7.50 assessment would expire in 1968 and voluntary contributions were very low, not more than $2,000 or $3,000 per year, action should be taken to provide more loan funds. On motion of Dr. Benoit, duly seconded, it was agreed that the Council recommend to the House of Delegates that another assessment in the amount of $10.00 annually per member for a three-year period (1969, 1970, 1971) be submitted to the 1968 House of Delegates for the MSMF program. On motion, duly seconded, the report of the Missouri State Medical Foundation was approved.

Dr. Fisher reviewed the report of the Public Service Committee which met in Kansas City on June 4, 1967. He stated that during general discussion of the problems and needs of MSMA, it was observed that (1) activities of the new Medical Economics Contract Committee have created noticeable interest among Missouri physicians; (2) there is an apparent need for a continuing program designed to inform and orient medical students in the aims and programs of organized medicine; and (3) MSMA should consider initiating a critical self-examination in an effort to determine whether its traditional structure and programs really meet current needs of the organization and its members.

The Committee also discussed holding a conference for local medical society officers. The purpose of this Conference is to improve relationships between the State Association and its local societies and to alert local society leaders to the broad programs and policies of organized medicine. After discussion, it was decided to have the Conference on Saturday and Sunday, November 4 and 5, at the Downtowner Motor Inn in Columbia. He then reviewed the program schedule to date and reported that the finalized program was being printed and would be sent to the various persons invited in a short time.

It was pointed out that the Councilors and Officers and others should help to promote this program and it should be publicized as much as possible. Several mailings are being planned. Mr. McIntyre gave a resume of the persons invited to participate in the Conference. He also noted that the election of officers of the county medical societies would conflict in some cases with these dates. It was decided that not only the Presidents, Secretaries and Executive Secretaries of the County Medical Societies, but also the President-Elect should be invited.

Dr. Fisher gave a detailed report of the 1967 AMA Communications Institute which he attended in Chicago, August 24, 25, with Dr. Benoit, Dr. Kerr, Ray McIntyre and Allen Smith of the Executive Office and several others from Missouri. He stated the entire meeting seemed to be centered around some of the points emphasized by the Opinion Research Corporation of Princeton, New Jersey, which had been employed by the Illinois State Medical Society to conduct a membership survey to determine if the programs and objectives of the Society were satisfactory to most members. Workshops were conducted with discussions on how the public feels about rising medical costs; communicating with physicians and stimulating their interest in medical society activities; most effective PR programs and PR problems and solutions. He reported it was a very worthwhile meeting and suggested that the Councilors should make an effort to visit their own constituent societies as often as they can and give them more direct information at the state level. This should help create more enthusiasm on the part of our membership. On motion of Dr. Benoit, duly seconded, the report of the Public Service Committee and Report on the AMA Communications Institute were approved.

Dr. Matthews, Chairman of the Committee on Legislative Matters, gave a report on legislation in the 74th General Assembly. He stated that of 1,287 bills introduced, 258 were passed, 45 were of interest to medicine and MSMA was active in relation to 32 measures. Representatives of the Association appeared as witnesses at least 27 times. He stated that the bill creating a State Board of Health was passed and was supported by the Association. Title XIX legislation and the State Board of Health bill have been signed into law. LSD (Hallucinogenic Drug) bill was passed and put under the Narcotics Control law. The Association appeared in support of legislation for some patients in Mental Institutions being returned to their own homes. This was passed and signed into law. Dr. Matthews stated the Chiropractors were strongly active and had made attempts to change the Workmen's Compensation Law and, also, to be included in Title XIX, but failed in these attempts. He also reported better understanding in regard to the "umbrella concept," with the hope that various para-medical groups may go along with this concept. In regard to the statewide Medical-Legal Examiners bill, the bill did pass in the House but died in the Senate Judiciary Committee.

Dr. Matthews expressed his appreciation to Allen Smith for his efforts in working so closely with him on legislative matters. On motion, duly seconded, this portion of the Legislative Report was approved.

Dr. Matthews stated the need for more action against those persons who are illegally and unlawfully practicing medicine in this state. He suggested that the Councilors be more active in promoting this idea to the Board of Healing Arts by urging them to act in trying to get investigating activities and court action in this area as soon as possible. A resolution was suggested and adopted by the Council in this regard to be forwarded to the State Board of Registration for the Healing Arts. On motion of Dr. Matthews, duly seconded, it was agreed that this resolution be adopted by the Council and forwarded to the State Board of Healing Arts.

It was reported that an article in the *AMA News* stated that a new law makes quackery in the State of California a felony. It was requested that legal counsel review this law and give the Council a report.

Dr. Matthews reported that the abortion bill did not pass. It was stalled in the House, but that it would come up again. He mentioned that this was discussed at the last Council meeting and was referred at that time to the Committee on Maternal Welfare for further study.

Mr. McIntyre reported that at the request of the AMA, a staff meeting was held in St. Louis with representatives of the AMA, James W. Foristel, William Ramsey, Arthur W. Seeds, and Ray McIntyre and Allen Smith attending, to discuss matters in the State of Missouri relating to Health legislation.

Mr. Seeds reported on Federal legislative activities, stating that the Washington scene is rapidly changing and some of the old ways of handling things are outdated. He reported the AMA has spent many hours on the staff basis trying to formulate better ways of working with members of Congress. He suggested that two or three physicians from each Congressional District in Missouri accept the responsibility of keeping informed on health bills before Congress and discuss same with their Congressmen regularly. He stated that information could be supplied to these physicians by MSMA and the AMA. This would involve four or five major bills per year.

Mr. Seeds reported on the Social Security Amendments of 1967 which are now being considered in the Senate Committee on Finance. He suggested that contact be made with our two Senators from Missouri urging them to support the action of the House on these amendments.

He said that Partnership in Health, H.R. 6418, was to be voted on soon in the House. It was noted that Sec. 12 provides direct money grants to hospitals over the country, by-passing the long standing Hill-Burton program. It was suggested that Missouri Congressmen be contacted immediately to try to get Section 12 out of the bill.

By vote of the Council, the following telegram was sent on September 17 to all Missouri Members of the U. S. House of Representatives over Dr. Benoit's signature as President of MSMA:

"The Council of the Missouri State Medical Association, meeting in St. Louis, today received a report that H.R. 6418, Partnership for Health Amendments of 1967 may be considered by the entire House this week. We feel that a very undesirable concept was added to this bill during the deliberations of the Committee on Inter-

Dwight L. Wilbur, M.D., President-Elect of the American Medical Association for 1967-1968, was the featured speaker at the General Luncheon in the Terrace Grill. The title of his address was "Health Manpower . . . Where Do We Go From Here?"

state and Foreign Commerce which would provide direct money grants to hospitals and, as a result, by-pass long standing Hill-Burton programs.

"Section 12 and other provisions in the bill that violate the principles of community health planning would be a far reaching change in the current hospital assistance programs which have worked so well in Missouri and should not be approved by the House. Your support of action to delete Section 12 will be appreciated.

It was also agreed that Councilors would request individual physicians in their Districts to send a similar telegram to their respective Congressman.

Dr. Yore presented the minutes of the meeting of the Scientific and Postgraduate Work Committee which met on May 21, 1967 in Jefferson City. The Committee reviewed the 1967 Annual Meeting program in St. Louis and the consensus was that the 1967 program was one of the best the Association had offered for many years, with only a few points of criticism being expressed. Suggestions were given for the 1968 program, to be held at the Muehlebach Hotel, Kansas City, March 28-31, as follows:

Continue to promote luncheon programs by special groups as well as a general luncheon and program on both days of the scientific program; use all feasible avenues of communication to get the regular membership to attend sessions of the House and Reference Committee hearings. It was recommended that physicians receiving their 50-Year pins in 1968 receive the pins at the 50 Year Luncheon held each year or at a session of the House of Delegates, instead of the Annual Banquet.

It was further recommended, by motion made and passed, that the Annual Banquet format be changed to offer more entertainment with the possibility of also having an orchestra and dancing. Specialty groups would again be requested to develop parts of the program, with the three medical schools in Missouri being asked to develop a specific part of the program.

Dr. Yore then gave an up-to-date report on the progress made on the program. Dr. Benoit reported that Bill Vaughan, a well-known writer and columnist, would be the guest speaker at the banquet and that an orchestra had been scheduled for the entertainment.

After discussion, on motion of Dr. Fisher, duly seconded, the report on the Scientific and Postgraduate Work Committee was approved.

Dr. Benoit reported that Mr. Noble and he had attended the IRS hearing in Washington, D. C. on July 19. He stated that with the help of Mr. Foristel of the AMA Washington Office and Mr. Nobel, the final statement submitted to the IRS Committee was drafted. Dr. Benoit reported that MSMA was the only State Medical Association appearing at the hearing. He read the statement which was printed in the Congressional Record and which will be published in a later issue of MISSOURI MEDICINE. He also reported that while in Washington, they visited with several Missouri Congressmen. Mr. Noble reported that Dr. Benoit did an excellent job in presenting the statement which held the attention of everyone. Mr. Seeds reported that the IRS will probably not do anything on this matter until Congress expresses itself.

Dr. Mayer presented the report of the meeting of the MSMA Ad Hoc Committee to Study Blue Cross in the absence of Dr. Walter Gunn, Chairman. Dr. Mayer stated that the Committee met with representatives of Blue Cross Hospital Service, Missouri Hospital Association, Greater St. Louis Hospital Council and St. Francis Hospital in Washington, Mo., as well as with Dr. Blankenship of Neosho and Dr. William Richardson of Union, to implement two resolutions approved by the 1967 House of Delegates. These resolutions were submitted by the Ozarks County Medical Society and the Franklin-Gasconade-Warren County Medical Society, both of which related to inequities in the reimbursement formula of Blue Cross.

Dr. Blankenship reported on the Ozarks Medical Society resolution and discussed the related inequities with Mr. Rexford and his staff, as well as with representatives of the Missouri Hospital Association and the Greater St. Louis Hospital Council.

Dr. Richardson reported on the resolution submitted by the Franklin-Gasconade-Warren County Medical Society and discussed the inequities in that area with the above mentioned representatives.

Dr. Bach reported on problems of Blue Cross regulations regarding Utilization Review in Hannibal hospitals.

After the meeting with representatives, the MSMA Ad Hoc Committee met in Executive Session and considered the fact that MSMA is not a sponsor of Blue Cross and recommended that the two responsible parties meet and negotiate settlement of the problems involved. The Committee also suggested that Dr. Richardson and Mr. Murphy proceed with the exchange of documentation with Blue Cross.

The Committee also recommended that a standard

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

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Warnings: Not of value in treatment of psychotic patients, and should not be employed in lieu of appropriate treatment. As with most CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving). When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may also be associated with temporary increase in frequency and/or severity of seizures. Advise patients against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance. Keep addiction-prone individuals (such as drug addicts or alcoholics) under careful surveillance because of their predisposition to habituation and dependence. Use of any drug in pregnancy, lactation or in women of childbearing age requires that potential benefit be weighed against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants. Employ usual precautions in the severely depressed or in those with latent depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed or tolerated).

Adverse Reactions: Side effects most commonly reported: drowsiness, fatigue and ataxia. Infrequently encountered: confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo and blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, use of the drug should be discontinued. Because of isolated reports of neutropenia and jaundice, periodic blood counts and liver function tests are advisable during long-term therapy. Minor changes in EEG patterns (low-voltage fast activity) observed during and after therapy and are of no known significance.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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reimbursement cost formula based on billed charges with a reasonable maximum be negotiated.

After further discussion, on motion of Dr. Benoit, seconded by Dr. Kerr, it was agreed that the Report of the Ad Hoc Committee be accepted with the recommendation that the Committee meet again to try to get some answers from Blue Cross to direct the heads of hospital staffs to look into the contracts that the hospitals sign and to make a recommendation regarding MSMA's attitude toward Blue Cross in the future.

Dr. William C. Allen reported on the University of Missouri Medical School and stated that Dr. William Mayer was appointed (as of July 1, 1967) Dean of the Medical School and Director of the University Medical Center and that Dr. Vernon Wilson was named Executive Director for Health Affairs of the University of Missouri. He also reported on the blood bank situation at the University of Missouri Medical Center where a definite shortage of blood exists. He explained how efforts were being made to develop a program to obtain blood for the use of the Medical Center through the help of former patients living in counties not participating in the Red Cross Blood Bank program.

Dr. Benoit reported he had received a letter from Dr. Milford Rouse, President of the AMA, regarding a program entitled, "Volunter Physicians for Vietnam." He stated that three physicians in Missouri went to Vietnam and that more applications were needed from general surgeons, orthopedic surgeons and internists. He stated that transportation is paid and a $10 per day allowance for expenses is all they receive. The balance is entirely voluntary. The request from the AMA was to inform physicians throughout the state, possibly through MISSOURI MEDICINE, of the need for physicians to volunteer their services for a 60 day period. No action was taken by the Council.

Dr. McCraw opened the Sunday session and thanked Dr. and Mrs. Kerr for their wonderful hospitality on Saturday night.

Dr. McCraw also referred to a letter received criticizing MISSOURI MEDICINE. After discussion on motion of Dr. Stuart, duly seconded, it was decided that a copy of the letter should be sent to the Editor for his information and that the Council express its complete confidence in his work.

Dr. Miller reported on a letter received by Mr. Bartleson from Dr. Ulett regarding psychiatrists participation in a training program for osteopathic residents in the Nevada State Mental Hospital. It was suggested in the letter that all psychiatrists in the Division of Mental Diseases give one day per year to this educational program. It was reported that the Executive Committee of Jackson County Medical Society had discussed this matter and has posed a number of policy questions. Mr. McIntyre reported that he spoke to Dr. Ulett about this program and that Dr. Ulett said he would be delighted to appear before either Jackson County or the MSMA Council, if requested to do so. After further discussion, on motion of Dr. Benoit, duly seconded, it was agreed that this matter be referred to our Mental Health Committee as well as the Medical Education Committee for further study, including conversation with Dr. Ulett, and report back to the Council.

Dr. Benoit reported for Dr. Wiegand, Chairman of the Medical Economics Committee and the Medical Economics Contract Committee. He reviewed the minutes of the August 6 and the August 20 meetings to develop guidelines for payment of physicians' services for welfare recipients under the Medicaid (Title XIX) Program in Missouri, which will become effective October 13, 1967. The meeting of August 6 was attended by Mr. Proctor Carter, Dr. H. O. Loyd and Mr. Ed Singleton, all of the Division of Welfare, who will administer the program. They gave a detailed explanation of the program and plans to pay for physicians services on a usual and customary fee basis.

The Chairman urgently requested that the representatives from each specialty group secure a schedule of the prevailing fees for the various services rendered by his group and submit these to the Medical Economics Contract Committee and a minimum of three names from his specialty group to serve on a review committee.

Dr. Benoit then reviewed the minutes of the August 20 meeting which offers a series of policy and procedural proposals for Council consideration. With some Council amendments, these proposals are as follows:

1. Every medical specialty will present through the Missouri State Medical Association to the State Division of Welfare a set of figures indicating suggested fee levels above which fees will be subject to review. The figures could be used as guidelines in administering the Title XIX (Medicaid) program in Missouri and may be made available to any other governmental or private agency serving as a third-party in a medical care program.

2. Any claim for a professional fee in excess of the guideline levels would be subject to review by the program administrator who would decide (a) to pay the claim as submitted or (b) refer the claim to an appropriate professional review committee for consideration.

3. Every medical specialty group will establish a claims review committee consisting of at least three physicians whose names will be submitted to the Division of Welfare. Such committee will examine fee claims which are referred to it by the third-party administrator and will make appropriate recommendations to the administrator. A copy of the recommendation will be sent to the Chairman of the MSMA Medical Economics Contract Committee for possible reference or use by the Committee.

4. All cases submitted to claims review committees will be prepared in such a way as to preserve the anonymity of the persons directly involved. Any continued disagreement should be heard by the local medical society as all other complaints are heard.

5. The recommendation of a claims review committee should be given serious consideration by the administrator. Any physician who is dissatisfied with the final decision of the administrator retains the right either to accept or refuse the proffered fee and either to accept or refuse additional patients under the program.

6. It is understood that physicians' fees may, and should, change according to developments in medical science and in the general economy. Such changes must be reflected continuously in medical care programs involving payments by third-parties. On request of the Missouri State Medical Association, a reevaluation of the "usual and customary" fees shall be granted by the administrator of any third-party program.

7. It is recommended that all physicians continue to charge and bill their "usual and customary" fees for services under third-party programs, whether or not such fees are paid in their entirety.

8. It is suggested that members of Professional Claims

Review Committees should receive actual and reasonable expenses of such committees to be borne by the third-party which administers or sponsors the program.

Dr. Benoit then presented the following additional recommendations of the Medical Economics Contract Committee to the MSMA Council:

1. That the Committee on Legislative Matters be instructed to bring to the attention of the State Legislature that the existing Medicaid Law suffers from a serious defect, i.e., it contains no provision which would enable the State to recover payments made to a beneficiary for health care when said beneficiary receives monies from other insurance coverage or from actions in law. (After lengthy discussion, on motion of Dr. Kerr, duly seconded, it was agreed that this paragraph be deleted.)

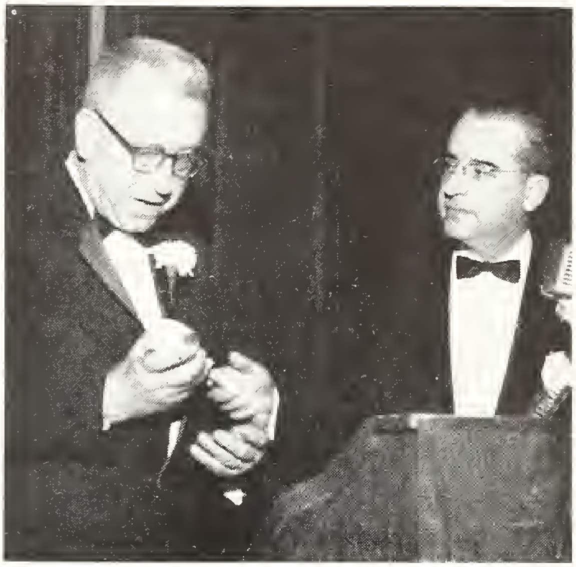
2. That the Council investigate and make appropriate recommendations relative to the utilization of professional claims review committees in the Title XVIII (Medicare) program administered by General American Life Insurance Company or in any medical care program involving third-party carriers and members of the Missouri State Medical Association. (After discussion of this recommendation to the Council, on motion of Dr. Benoit, duly seconded, it was agreed that the Council direct the Medical Economics Committee to investigate and make appropriate recommendations relative to the professional claims review committee.)

3. That the Council consider what position or action the Missouri State Medical Association should take if the funding of a government health care program proves to be inadequate. (The Committee believes that it is the primary responsibility of the State Legislature to fund health care programs adequately; it is the responsibility of the Director of the Division of Welfare to disburse these funds properly to the purveyors of service. The Committee feels that physicians should stand ready to cooperate in negotiations relating to fee matters under such health care programs. Physicians should not, however, be expected to reduce their "usual and customary" fees for service if or when a government program proves to be inadequately funded.) (After reviewing this paragraph, motion was made and seconded that this matter be referred to the Legislative Committee for further study.)

On motion of Dr. Benoit, duly seconded, the report of the Medical Economics Contract Committee was approved as amended.

Dr. Benoit called attention to a letter received from the Surgeon General regarding the ODMC (Medicare) contracts and physicians fees being based on "usual, customary and reasonable" fee concept. Mr. O'Brien explained that Missouri Medical Service would be willing, if the Council agreed, to continue to act as the fiscal agent for the ODMC program and would follow the required arrangement as any fiscal agent with whom a contract would be signed. On motion of Dr. Kerr, seconded by Dr. Stuart, it was agreed that a letter be forwarded to General Peatfield recommending that Missouri Medical Service be continued to act as the fiscal agent for the ODMC program.

Dr. Benoit discussed a proposed "Physicians Participation Agreement" which will be circularized to physicians in Missouri about the first of October by the Division of Welfare to help implement the Medicaid program which will go into effect October 13. Suggestions were made to recommend combining and simplifying a number of the items and the rewording of others to conform to MSMA policies. After discussion, on motion duly seconded, it was agreed that these recommendations be forwarded to the Division of Welfare.



Incoming President David N. Kerr accepts the badge of his office, the traditional President's gavel, from retiring President Hector W. Benoit, Jr. The gavel has been used by the President at the Annual Session for many years. The presentation was made at the President's Banquet.

Dr. Franklin reported that the National Medical Association met in St. Louis recently and Dr. James Whittico was elected President of that organization. On motion, duly seconded, it was agreed that a note of congratulations be sent to Dr. Whittico from MSMA.

The dates of the next Council meeting will be December 9, 10, 1967 at the Ramada Inn, Jefferson City.

Meeting of December 9, 10, 1967

Doyle C. McCraw, M.D., Bolivar, Chairman, called the meeting to order. Those present were: Drs. McCraw; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; E. A. Stricker, St. James; W. D. English, Cardwell; Hector W. Benoit, Jr., Kansas City; David N. Kerr, St. Louis; Max S. Franklin, St. Louis; Paul F. Max, St. Louis; Byron M. Stuart, Boonville; A. W. Neilson, St. Louis; Richard H. Kiene, Kansas City; J. L. Washburn, Versailles; Stanley S. Peterson, Springfield; Vernon E. Wilson, Columbia; William D. Mayer, Columbia; Blaine Z. Hibbard, Kansas City; John Crowe, Cape Girardeau; Henry V. Guhleman, Jefferson City; William B. See, Columbia; Earl L. Loyd, Jefferson City; Messrs. John W. Noble, Kennett; Arthur W. Seeds, Chicago; Allen D. Smith, Kansas City; Gary L. Schnedler, Springfield; Hollister Smith, Lemoine Skinner, Jr., Jordan Singleton and Tom R. O'Brien, St. Louis; Ray McIntyre, Tom P. Fox and Don Brummall, Jefferson City.

Dr. McCraw requested approval of the Minutes of the Council meeting of September 16, 17, 1967. On motion of Dr. Benoit, duly seconded, the minutes were approved as written.

A proposal to help you manage congestive heart failure patients:

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Many patients in congestive heart failure may obtain the greatest benefit from HYDROMOX Quinethazone when it is given in a single daily a.m. dose of 100 mg. (two 50 mg. tablets). Diuresis is usually rapid and effective in reducing symptoms within the first critical days. We suggest continuing clinical evaluation over a 15-day period of therapy. If results are satisfactory, a reduction to 50 mg. (1 tablet) daily will usually be adequate for maintenance.

Precautions: Electrolyte abnormalities may be aggravated or produced. Caution is important during prolonged or intensive therapy and when salt intake is restricted. Hypokalemia has been mild and infrequent, and other electrolyte abnormalities rare. The possibility of potassium depletion and its toxic sequelae must be kept in mind, particularly in cirrhotics and patients receiving digitalis. As a preventive measure the use of foods rich in potassium, such as orange juice, may be desirable. Although not a thiazide, HYDROMOX may possess certain characteristics of the thiazides. They have been known to cause jaundice with liver involvement and pancreatitis; hematological complications such as purpura with or without thrombocytopenia and leukopenia (neutropenia); increases of serum uric acid; decreased glucose tolerance as evidenced by hyperglycemia and glycosuria thus aggravating or provoking diabetes mellitus and azotemia in patients with renal disease; photoallergy. Discontinue use a few days prior to elective surgery. When added to a regimen that includes ganglionic-blocking agents, the dosage of these latter preparations should be reduced. Also reduce dosage when one or more of these antihypertensive agents is added to an established HYDROMOX regimen. Contraindicated in anuria. Observe for possible hematologic complications.
Side Effects: Skin rash; gastrointestinal disturbances (chiefly nausea), weakness, dizziness. These seldom require cessation of therapy, and can be relieved by reducing dosage or correcting electrolyte imbalance.
Warning: Enteric coated potassium tablets have been implicated in small bowel lesions and should be used only when adequate dietary supplementation is not practical.

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Dr. Hibbard, Chairman of the Committee on Utilization Review, presented the report of the Committee which met on September 24, stating that review committees were functioning in the various hospitals throughout the state. He said that Dr. Gentry reported on the Extended Care Facilities stating that 61 have been approved in Missouri under Medicare and that they were experiencing difficulty in finding beds in these facilities, especially in the rural areas. It was pointed out that the patient must be educated, as well as the physician, in order to properly comply with the Medicare law.

Paragraph 3, page 1 of the report dealing with needed revision in regulations, as proposed in the pending H.R. 12080 presently in the Senate Finance Committee, was reviewed. After discussion by the Council, it was agreed that the latter portion of this paragraph, suggesting that programs of $50 deductible be increased to $100 deductible, should be deleted from the report.

The Committee recommended for Council approval that (1) medical care for the age group 65 and over, be rendered whenever possible in the office of the private physician rather than in hospital outpatient departments; and (2) cooperation by the attending physician with patients in the processing of Medicare forms for both direct payment and payment by assignment. The Committee also recommended that if the above two items were approved by the Council, a carefully constructed letter outlining what is meant in these two recommendations be sent to all the doctors in Missouri. After discussion and on motion of Dr. Benoit, duly seconded, it was agreed that Dr. Hibbard be authorized to draft a carefully-worded article for publication in MISSOURI MEDICINE outlining these recommendations.

The Committee discussed experience in referral of hospital patients to extended care facilities and it was reported that "care" in these facilities was not clearly defined in the law and that definition of "custodial care" or service not covered by Medicare is needed.

After further discussion and on motion of Dr. Benoit, duly seconded, it was recommended that the Kansas City Blue Shield and General American Life be requested to send a letter to all physicians in the state explaining in detail about the Extended Care Facilities, and not just quote their regulations.

On motion of Dr. Kerr, seconded by Dr. Gunn, the Report of the Utilization Review was accepted as amended. (The full committee report is on file in the MSMA office.)

Mr. Seeds of the AMA Field Service Division reported on a discussion on legislative matters which he had with MSMA officers at the AMA Clinical Session in Houston. He stated that physicians should work on a continuing basis with members of Congress and that the AMA was ready to help in any way they could in Missouri. It was recommended that three or more physicians be selected in at least eight of the Missouri Congressional Districts in Missouri to work through the Councilor Districts of MSMA with their Congressmen. He stated the AMA would help in providing background information and materials. It was agreed that each Councilor would supply the Association office with the names of key physicians in their respective Councilor District and Congressional District who might qualify in the following respects, i.e., interest, personal knowledge of his Congressman, previous activity in political action work, party affiliations, etc. Ground rules will be provided with the help of Mr. Seeds. It was suggested that these names be furnished to the State Office within the next ten days or two weeks. After further discussion and on motion of Dr. Cope, duly seconded, it was agreed that the concept of a "key man committee" for the purpose of advising legislators regarding legislation for better health care for the people be extended to the national level, as well as to the state.

Dr. Guhleman presented the report of the Mental Health Committee for the Chairman, Dr. Terrill, who was unable to attend. He stated that Dr. Ulett attended the meeting of the Committee on November 19 and reported on the three Rapid Treatment Mental Health Centers located in Columbia, St. Louis and Kansas City which are now in operation. He added that there are to be nine Mental Retardation Centers, of which three are in operation.

The Committee discussed the problem of Doctors of Osteopathy taking residency training at the Nevada State Hospital in psychiatry under instruction of Doctors of Medicine and recommended for Council consideration that as long as the Nevada State Hospital maintained the same training standards as practiced in other approved training institutions in Missouri, it shall be deemed proper. After discussion and on motion of Dr. Cope, duly seconded, it was agreed that the Committee recommendation be amended to read as follows: "There is nothing unethical or improper about Doctors of Medicine participating in the training program in psychiatry of Osteopathic Physicians at the Nevada State Hospital."

Other items of discussion contained in the Mental Health report related to possible licensure of psychologists in Missouri under the umbrella approach and privileged information, particularly as it applies to psychiatrists and temporary licensure law for foreign physicians. The Committee recommended that foreign physicians who hold temporary licenses be allowed to take the Missouri State Board examination when otherwise qualified and not be required to wait until the end of the five years when they become a U. S. Citizen. It was pointed out that a similar recommendation already has been approved by the Council and MSMA House of Delegates. After further discussion and on motion of Dr. Miller, duly seconded, the report of the Mental Health Committee was accepted as amended. The minutes of the committee meeting are on file in the MSMA office.

Mr. McIntyre reported on a Council resolution regarding persons who are illegally and unlawfully practicing medicine in Missouri which was transmitted to the State Board of Registration for the Healing Arts. He read a letter received in reply from the State Board stating that such complaints transmitted to the Board would be investigated.

Mr. McIntyre also reported that two representatives of MSMA had been invited to attend the Conference on Health Care for the Poor to be held in Chicago on September 15, 16, 1968. Drs. Stanley Peterson, Springfield, and Herbert C. Wiegand, St. Louis, have been designated to represent MSMA.

Reference was made to the resolution adopted by the 1967 House of Delegates regarding fees paid to the State Board of Healing Arts. After discussion and on advice of legal counsel, it was decided that no action be taken in regard to the resolution. It was recommended that a formal report by legal counsel become a part of the Council report to the House of Delegates at the next Annual Session.

On motion of Dr. Benoit, duly seconded, the report of the Executive Secretary was approved.

Mr. Fox presented the report of the Infant and Child Care Committee in the absence of the Chairman. The Committee met on November 19 and discussed the origin and development of a National School Health Education Study presented by Ann E. Nolte, Ph.D., Associate Director, School Health Education Study, Washington, D. C., and stated that the purpose of the study was to determine what is happening in school health education today. Results of the study indicated a need for teaching health concepts rather than statistical facts and figures.

The Committee also discussed regulations on the PKU law and the difficulties encountered in enforcing the law. This was due mainly to the failure of hospitals to report testing or, in many cases, failure to make the test. Committee members were urged to contact their respective hospitals and urge them to cooperate in making the tests and in reporting the results to the Missouri Division of Health as required by the law. It was stated that the latest revised rules regarding the PKU law were distributed to all physicians in Missouri in July, 1967.

Dr. Magness reported on his attendance at the AMA 11th National Conference on Physicians and Schools, October 4-7, 1967, as a representative of the MSMA. He stated that recommendations at this conference included a full health course in public school curriculum, education on the evils of alcoholism and value of driver training courses. Dr. Magness also reported on a program by the St. Louis County Medical Society School Health Committee on "Learning Disabilities of Young Children."

It was recommended that "athletic participants, especially football players, be required to have a minimum of twenty days advance practice with adequate fluid intake." After discussion by the Council, this portion of the report was deleted and replaced by the following motion: On motion of Dr. Cope, duly seconded, it was agreed "that proper precaution be taken that adequate conditioning take place before a student participates in athletics." On motion of Dr. Benoit, duly seconded, the report of the Infant and Child Care Committee was approved as amended. (The Committee's full report is on file in the MSMA office.)

Mr. O'Brien gave a brief explanation of the ODMC program for the year 1968, stating that the new contract between Missouri Medical Service, Inc., as fiscal agent in Missouri, and the Office of Dependents' Medical Care would be similar to the one now in existence, including the retired members of the Armed Services, but with physicians fees to be paid on the usual, customary and reasonable basis. He stated that a letter would be sent to the entire membership before the end of December explaining the new contract and requested that a short article be published in an early issue of MISSOURI MEDICINE. After discussion and on motion of Dr. Benoit, duly seconded, it was agreed that the Council direct the Executive Secretary to provide the cut-off (usual and customary) fee schedules compiled by the Medical Economics Contract Committee to the office of Mr. O'Brien for use by ODMC in Missouri.

Mr. O'Brien reported that the 1968 Annual Session of AMPAC will be held in Washington, D. C., March 9-10, 1968.

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Dr. Stuart presented the report of the Constitution and By-Laws Committee which met on November 12, stating that two items had been referred to the Committee by the Council for study and recommendation as follows:

(1) That Chapter III, Sec. 2, line 4 and line 7 of the MSMA By-Laws be amended so that the word "members" in each of these two lines be changed to "memberships," as recommended in a resolution referred to the Council by the 1967 House of Delegates of MSMA.

After discussion by the Committee, it was recommended that Chapter III, Sec. 2, lines 4 and 7 of the MSMA By-Laws *not* be changed as suggested, since the Committee believes such a change will cause considerable confusion in members transferring from one society to another.

On motion of Dr. Stuart, duly seconded, this portion of the report was approved.

The second item referred to the Committee for study was the feasibility of setting up specialty sections in MSMA. The Committee recommends against establishing specialty sections for the following reasons:

a. The Association does not have a large enough membership.

b. No real need seems to exist.

c. Further so-called "splintering" of the profession should be avoided.

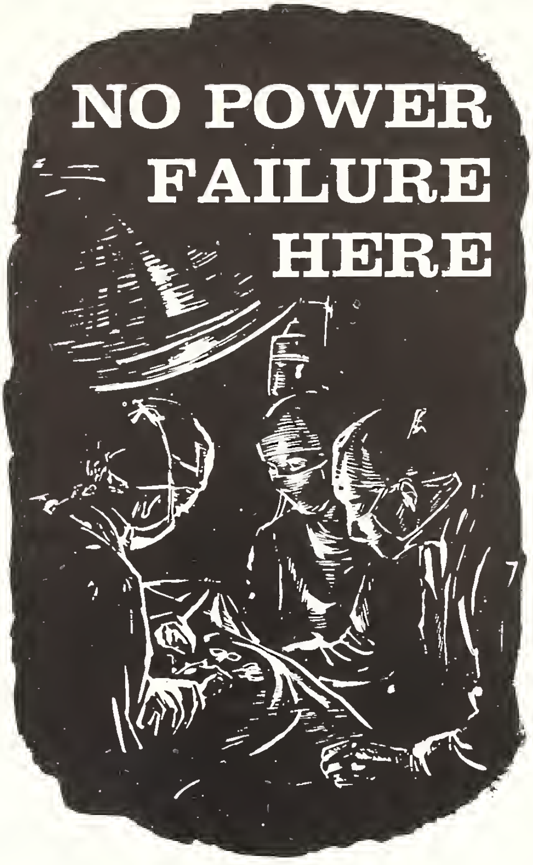
d. Space and time for the many meetings could become quite difficult to work out at the Annual Session of the Association.

e. The House of Delegates has recently established a new Committee of MSMA called the Committee on Interspecialty Medicine to be composed of one representative from presently formed statewide specialty groups and from others which may be formed in the future. This Committee is charged with the responsibility of reviewing administrative problems with respect to scientific programs and socio-economic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this Committee are to be made periodically to the Council as well as to the House of Delegates. Your Committee feels that this Committee on Interspecialty Medicine displaces any need for scientific specialty sections in MSMA.

f. It has been a policy of the Annual Meeting Program Committee of MSMA to contact the various specialty groups and invite them to put on a part of the scientific program of the MSMA Annual Sessions. This procedure has proved quite satisfactory and excellent cooperation and results have been evidenced. This procedure and results further convince the Committee that specialty sections are not needed in MSMA.

After discussion and on motion of Dr. Stuart, duly seconded, this portion of the report was approved.

The Committee on Constitution and By-Laws recommended that an overall study be made of the existing committee structure with the objective of bringing about the simplification of the structure by possibly combining some of the existing committees and possible deletion of others. The Committee felt this was a major undertaking and should be recommended to the Council and the House of Delegates and sufficient time be given to assure the desired results. On motion of Dr. Benoit, duly



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seconded, it was agreed that the Constitution and By-Laws Committee accept the assignment of studying the present committee structure.

On motion of Dr. Stuart, duly seconded, the Report of the Committee on Constitution and By-Laws was approved in toto. (The Committee's complete report is on file in the MSMA office.)

Dr. Miller discussed the subject of the physician's signature requirement regarding antidiscrimination in the Missouri Vocational Rehabilitation program in compliance with the Civil Rights Act of 1964. Dr. Miller asked Dr. Earl Loyd to explain the program to the Council. Dr. Loyd explained that the Department of Vocational Rehabilitation had originally issued guidelines indicating that an acceptable preliminary step in the procedure would be either (a) to have each vendor sign in advance a statement that he will not discriminate in providing service under the federally assisted program, thus establishing a list of eligible vendors, or (b) to have each vendor who provides services sign a similar statement each time he submits a claim for payment under the program. These procedures have met with considerable opposition from physicians and the state medical association. As a result, a third method has been devised in which a notice of the requirements of the statute is printed on the back of the voucher form used to claim payment of services. The vendor would have to use and sign the VR voucher form in order to be paid, but does not have to sign a statement of nondiscrimination. A copy of the voucher form was distributed to the Council. After discussion, on motion of Dr. Miller, duly seconded, it was agreed that the third method of payment would be acceptable, that is, to use the voucher form as proposed by the Vocational Rehabilitation Program.

Dr. Fisher gave a brief report on the County Medical Society Officers Conference held in Columbia on November 4, 5, 1967. He stated that there was a good attendance and that most of the discussion centered around communications. It was pointed out that too much time elapsed from the county society level to the state level and the AMA level before matters could be implemented It was reported that one group discussed the possibility of inserting a colored tear-out sheet in MISSOURI MEDICINE and, possibly, in the Journal of the AMA on which problems confronting medicine could be presented and answered or kept in the doctor's file for future reference. Medicare or Medicaid information could be printed in this manner for easy reference.

He also presented various ideas on improving attendance at medical society meetings. Orientation of new members on both county society and MSMA levels rated considerable attention in the four discussion groups. How physicians may be more effective in good health legislation was considered.

The general consensus of opinion was that it was a good meeting and that a similar meeting should be held annually. The attendance approximated 100. After discussion and on motion of Dr. Fisher, duly seconded, the report was approved.

Mr. McIntyre presented a brief résumé of the 1968 Annual Session program developed to date. He also mentioned that there were several changes in the annual banquet format for this year, and that 50 Year Pins would be distributed at possibly the first session of the House of Delegates and that the recipients would be invited to attend the 50 Year Club Luncheon as guests of the Association, instead of the Annual Banquet as in previous years. It also was suggested that each Councilor encourage his alternates to participate in the activities of the House and to attend Reference Committee meetings.

Dr. Kiene presented a brief report on the 21st Clinical Convention of the AMA held in Houston on November 26-29, 1967. He stated that a discussion arose regarding the Report of the National Advisory Commission on Health Manpower which had just been released to the press and of which the AMA knew nothing about its contents. It was reported that Dr. Dwight L. Wilbur, a member of the Commission, knew about the report but was not in a position to reveal its contents. Dr. Neilson explained why a proposed resolution concerning this matter was not introduced in the AMA House. He read a letter written to him by AMA President-Elect Wilbur regarding the Commission's report.

Dr. Kiene also reported on a number of actions in the House, which will be published in a report in MISSOURI MEDICINE. It was reported that all the Delegates were present, as well as all the alternates and a number of the officers of the Association attended the meeting.

Dr. McCraw called attention to the fact that this was Dr. Kiene's last year as AMA Delegate and reported that Dr. Kiene had attended 15 meetings of the AMA during his term as Delegate. A vote of thanks was given to Dr. Kiene for his time and effort in attending AMA meetings and on motion of Dr. Kerr, duly seconded, it was agreed that a letter of thanks and appreciation be sent to Dr. Kiene for his services in the AMA House of Delegates on behalf of MSMA.

It was reported that Dr. Neilson was approached about serving on the enlarged AMA Committee on Health Manpower but this was not consummated. Further discussion centered on a new Council of the Board of Trustees to be known as the Council on Allied Health Professions to coordinate the relationship of medicine with allied health professions and services. On motion of Dr. Kerr, duly seconded, it was agreed that the Council of MSMA write a letter to Dr. Blasingame recommending that Dr. Neilson be appointed to this new council.

Dr. Franklin gave the Treasurer's Report as of November 30, 1967, stating that the cash on hand in the Treasurer's Account was $33,312.87 and in the Secretary's Account was $717.45, making a total of $34,030.32. Certificate of Deposit (6 months) in the amount of $15,000, making a total of $49,030.32. Regular Investment Account, $112,582.87.

The Budget Committee met on Friday evening, December 8, to discuss the 1968 Proposed Budget. The following Budget was approved for presentation to the Council:

Salaries	$ 87,715.00
Furniture and Fixtures	2,000.00
Office Rent	4,800.00
General Expenses	2,500.00
Office Supplies	4,500.00
MSMF Assessments	26,300.00
Postage	5,500.00
MSMF Expenses	2,500.00
Journal Expenses	37,000.00
Equipment, Rentals, etc.	2,000.00
Telephone & Telegraph	4,500.00
Pension Expenses	12,725.00

(Continued on page 521)

Legal and Professional	6,000.00
Taxes Payroll	2,800.00
Travel Expenses	6,000.00
Meetings and Committee Expense	38,200.00
Annual Session	17,150.00
Total	$262,190.00

On motion of Dr. Gunn, seconded by Dr. Wray, the above budget was approved for 1968.

Dr. Crowe presented the report of the Disaster Medical Care and National Defense Committee which met on September 17 and again on December 3. He reported on the Boone County Hospital Disaster Plan which is now in operation and called attention to a printed program, "Disaster Plan," which will be distributed to the Committee.

The Committee also discussed problems concerning ambulance service in Columbia and other areas. It was agreed that the Committee study one or two key problems. Radio communications also were discussed and it was suggested that the MSMA contact the Missouri Chapter of the American College of Surgeons to discuss one-day seminars on emergency medical care to be jointly sponsored by MSMA, the Missouri Chapter of the American College of Surgeons Committee on Trauma and the three medical schools in Missouri.

The following resolution was presented for Council approval:

> "*Whereas*, Despite improvement in vehicle and highway design the death toll on Missouri highways and streets continues to climb almost unabated, and
>
> "*Whereas*, Present statistics indicate that the drunk driver continues to inflict injury and death upon his fellowman in increasing numbers, and
>
> "*Whereas*, Present drunk driver laws are seemingly ineffective, therefore, be it
>
> **Resolved**, That the Council of MSMA, through its related committees proceed with dispatch to promote the passage of legislation for implementation of Department of Transportation Highway Safety Standard 4.4.8 of the 1966 National Highway Safety Act which pertains to alcohol in relation to highway safety, and be it further
>
> "**Resolved**, That MSMA work for legislation to amend the present chemical test law from .15 percent by weight of blood alcohol to .10 percent by weight as prima facie evidence of alcohol intoxication and that such law provide for establishment of immunity, from lawsuit, covering physicians and other qualified personnel who withdraw blood specimens from arrested motorists or victims of vehicle accident, at the request of law enforcement officers.

After discussion and on motion of Dr. Cope and Dr. Fisher, it was agreed that the resolution be referred jointly to the Laboratory Medicine Committee and the Committee on Legislative Matters for study before taking any other action. The motion was duly seconded and carried.

Dr. Crowe requested exhibit space and $300 maximum to finance an exhibit at the 1968 Annual Session of MSMA. On motion of Dr. Fisher, duly seconded, it was agreed that this request be granted.

On motion of Dr. Miller, duly seconded, the report of the Disaster Medical Care and National Defense Committee was accepted. (The complete report of the Committee is on file in the MSMA office.)

Dr. See, Chairman, presented the report of the Committee on Maternal Welfare which met on October 29. Dr. See reported that Dr. Meinershagen of the Division of Health had explained the proposed revised Certificate of Live Birth which is to be used beginning January 1968. The Committee made certain suggestions for changes in several items which will be transmitted to the Division of Health.

Dr. See reported on several items in connection with the Annual Session program by the Maternal Welfare Committee. The Committee also discussed the present Missouri Law regarding abortion and S.B. 356 which was introduced in the 74th General Assembly. Dr. See said the Committee favors a revised law in line with the principles set forth in the perfected copy of S.B. 356 with certain amendments as follows:

> a. No abortion shall be performed unless three (duly licensed, specifically competent) physicians other than the physician to perform the abortion, certify in writing that they believe the abortion to be justified and necessary.
>
> b. The certificate shall also be open to inspection by the hospital medical staff committees concerned with maintenance of hospital standards.

On motion of Dr. Miller, duly seconded, it was agreed that the portion of the report dealing with the Abortion Law and the recommended revisions be submitted to the Legislative Committee for further study.

The Committee discussed Good Samaritan Legislation, Immunity for Liability of Hospital Staff Committees, Utilization Review and Maternal Mortality Committees and recommended that efforts be continued to secure such protective legislation.

On motion of Dr. Stuart, duly seconded, it was agreed that legal counsel be empowered to conduct a study regarding protective legislation and find out what other states are doing in this regard and whether or not the law has been upheld by state Supreme Courts, is or is not in conflict with the state constitutions and what might be recommended to the Missouri legislature.

After discussion and on motion of Dr. Miller, duly seconded, the report of the Maternal Welfare Committee was approved. (The MSMA office has the full report of the Committee on file.)

Mr. Fox presented the report of the Rural Medical Service Committee for Dr. Worley, the Chairman, who was unable to be present. The Committee studied the AMA proposed Rural Emergency Medical Services plan and recommended Council approval for adoption of the AMA five-point plan with amendments by MSMA. The plan to be implemented at the state and local levels is as follows:

> 1. Rural communities coordinate their efforts with adjacent towns in analyzing existing patterns of response to medical emergencies.
>
> 2. Rural and urban communities institute a medical service area program for emergency medical transportation facilities and health personnel.
>
> 3. Adoption by rural and urban communities where practical, of standards for ambulance equipment, personnel and operation, liability insurance requirements and maintenance of records.
>
> 4. Rural and urban communities provide a program

of advance Red Cross first aid instruction for the nonmedical people most frequently called in rural emergencies.

5. Rural and urban communities develop a continuing campaign directed toward first aid instruction for rural families and particularly young people through the schools, youth organizations and other educational channels.

The Committee also recommended for Council approval support by MSMA of AMA First Aid Training Programs at the local county society level which would include collaboration with Missouri University Extension Program, Missouri Health Mobilization of the Missouri Division of Health and the Red Cross. It was suggested that endorsement of the AMA First Aid Training Program by MSMA be published in MISSOURI MEDICINE and a letter be written to all county medical society presidents and secretaries. Council approval also was recommended regarding Committee study and approval of 4-H group health activities referred by the Missouri University Extension Division. On motion of Dr. Stricker, duly seconded, it was agreed to accept the report of the Rural Medical Service Committee. (Complete Committee report on file in the MSMA office.)

Dr. Wilson gave a brief report on the Regional Medical Programs in Missouri stating that the University of Missouri was among the first in this program and is being used as a model throughout the country for this type of activity.

He reported that in this regional Heart, Cancer and Stroke program, a number of projects are now in operation over the state. He reported on a project at Smithville, Mo., and a Cardiac Intensive Care Unit in operation at St. John's Hospital in Springfield. The Springfield unit required two and one-half years of planning by a special committee of physicians, hospitals and community people. He also stated that another Regional Medical Program on Heart, Cancer and Stroke was getting under way in the St. Louis area involving St. Louis and Washington University Medical Schools.

A Comprehensive Health Planning program for Missouri under P.L. 89-749 also was discussed. A planning guide or explanation of this program from the Division of Comprehensive Health Planning, Office of State and Regional Planning, State of Missouri, was distributed to the Councilors. On motion of Dr. Kerr, duly seconded, it was agreed that the Councilors study the program and that the Executive Committee of the Council be prepared to discuss the program and present suggestions to the Council at its next meeting.

The Chairman appointed a Committee on General Arrangements for the 1968 MSMA Annual Meeting. The Committee members are: Drs. Gerald Miller, Chairman; Joseph Fisher, Rolla Wray and James Cope.

The Councilors reported on items of interest in their respective Districts.

The next meeting of the Council is scheduled for February 3, 4, 1968 at the Ramada Inn, Jefferson City.

A meeting of the Executive Committee of the Council will be held at 4:00 PM, on Friday, February 2, 1968, at the Ramada Inn, preceding the Council meeting.

Meeting of February 3, 4, 1968

Doyle C. McCraw, M.D., Bolivar, Chairman, called

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the meeting to order. Those present were: Drs. McCraw; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; E. A. Stricker, St. James; W. D. English, Cardwell; Hector W. Benoit, Jr., Kansas City; David N. Kerr, St. Louis; John I. Matthews, Jefferson City; Max S. Franklin, St. Louis; Paul Max, St. Louis; Joseph V. Finnegan, St. Louis; A. W. Neilson, St. Louis; J. L. Washburn, Versailles; Byron M. Stuart, Boonville; Vernon E. Wilson, William D. Mayer, William C. Allen, John A. Buessler, Columbia; Joseph B. Kendis, St. Louis; John H. Walters, Columbia; Herbert C. Wiegand, St. Louis; Flavius G. Pernoud, St. Louis; David Langerman, Jefferson City; Richard W. Yore, St. Louis; H. O. Loyd, Mr. Singleton and Mr. Proctor Carter of the Division of Welfare, Jefferson City; Drs. George A. Ulett, Division of Mental Diseases and Harold Robb of the Division of Mental Retardation, Jefferson City; Messrs. John W. Noble, Kennett; Arthur W. Seeds, Chicago; Hollister Smith, St. Louis; Gary L. Schnedler, Springfield; Allen D. Smith, Kansas City; Lemoine Skinner, Jr., Jordan Singleton, Tom R. O'Brien, St. Louis; Ray McIntyre, Tom P. Fox and Don Brummall, Jefferson City.

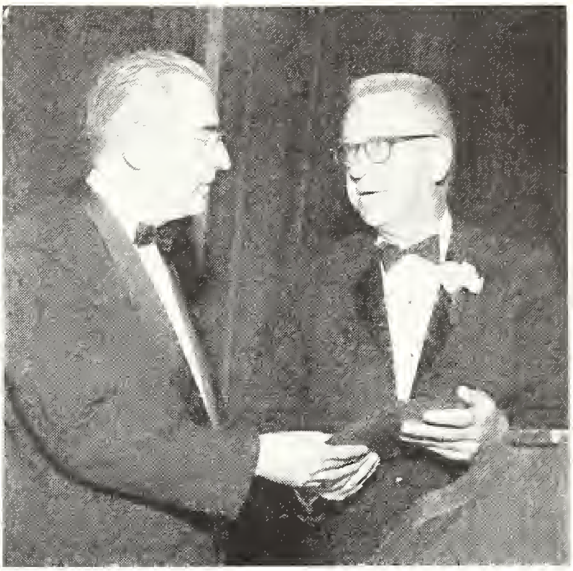
Dr. McCraw called the meeting to order at 9:30 AM on Saturday, February 3, and requested approval of the minutes of the Council meeting of December 9, 10, 1967. On motion of Dr. Wray, duly seconded, the minutes were approved.

Mr. McIntyre reported that Mr. Brummall is now traveling throughout the state attending county society meetings, contacting the presidents and secretaries of the various county societies and making personal contacts with the physicians in order to establish liaison with the local county societies, to keep them up-to-date on various activities of the State Association and to offer his assistance.

He also reported on a meeting he had attended in New Orleans, namely, the Conference of State and County Medical Society Executives, which had been set up by the Field Service Division of the AMA for the purpose of discussing problems relative to medicine on both state and local levels. Among the items discussed were increased staffing, financing of the associations and local medical societies, legislation, etc. He stated that the meeting began on Wednesday, January 24 and ran through Friday, January 26. The states involved in this Conference were Louisiana, Texas, Oklahoma, Arkansas, Illinois, Nebraska, Colorado, Kansas and Missouri. Mr. McIntyre reported that Messrs. Hollister Smith, Gary Schnedler and Edward Hirsch also attended the meeting.

Dr. Lester of the AMA Washington Office gave a brief report on legislation on the national level, stating that a number of hearings will be held on the cost of health care, both in the House and Senate. He reported that the generic drug problem will be an important issue in the present session.

Dr. Lester posed questions concerning what could happen to programs now in effect if conservative types of representatives would be elected to Congress next fall and what the medical profession wants to do with the present programs now in effect, such as the broad social welfare and health programs. He reported that Kansas and Colorado were ahead of Missouri on the Key Man program on the Congressional level. He stated that where the Regional Medical Programs in other states are concerned, Missouri is ahead of most of them. The OEO program has produced the same problems in most states.



Newly installed MSMA President David N. Kerr *(right)* presents to his predecessor, Hector W. Benoit, Jr. *(left)* a plaque expressing the Association's appreciation for his year of service as President. Doctor Benoit will continue as a member of the Council for another year.

Mr. McIntyre reported on possible legislation relating to the Missouri abortion law and stated that a bill proposing changes would probably be introduced in the 1969 session of the Missouri Legislature. It was stated that Colorado passed such a law in 1967 and that it was working fairly well, and that Oklahoma is working in an effort to bring its law up to date. On motion of Dr. Stuart, duly seconded, the report of the Executive Secretary was approved.

Dr. Vernon Wilson reported on the Comprehensive Health Planning Program in Missouri in the State Division of Community Development. Copies of an outline of the program had been distributed to the Councilors at the last Council meeting in December for study. Dr. Wilson stated that, as a member of the Advisory Council, he was trying to determine just what this program was about and how it will develop. The general reaction of the Council was that this planning program outline was unacceptable and difficult to interpret and that the State Medical Association should seek further clarification. It also was pointed out that an Advisory Council under the law had been appointed, but up to the present time had never met. Furthermore, no physicians in private practice are on the Council. After considerable discussion, it was moved and seconded that the Council direct Mr. McIntyre, at the earliest possible opportunity, to confer with representatives of the Osteopathic Association, Dental Association and other professional health organizations to point out our concern over this problem and to discuss possible joint action. Motion carried. It was reported that the first meeting of the Advisory Council on Comprehensive Health Planning in Missouri was to be held on Tuesday, February 6. On motion of Dr. Miller, duly seconded, it was agreed that the Execu-

(Continued on page 531)

LAST CALL!!

St. Louis County Medical Society

Travel Seminar for All Members of

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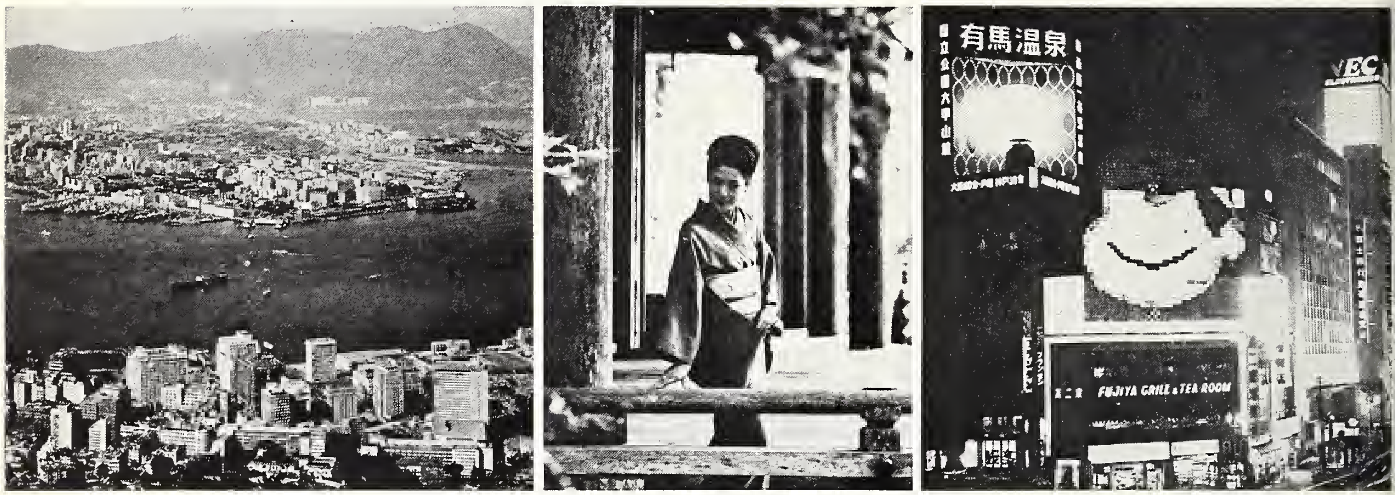

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Volume 65, Number 7—July, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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Remarks of Hector W. Benoit, Jr., M.D., President

Mr. Speaker, Fellow Officers, Councilors, Members of the House of Delegates and Guests:

It is appropriate, I understand, at such a time as this, for the outgoing President to neatly and adroitly "capsulize" in an objective and properly modest manner the brilliant accomplishments of his administration, while at the same time demonstrating his great wisdom by projecting the future golden paths of achievement now open to the Association. For me to attempt such a ridiculous performance would serve to create only one thing—a credibility gap unchallenged by any of those currently in existence in our nation's capital.

Hundreds of years ago, sailing skippers developed the custom of keeping a daily log of events aboard ship, thereby providing a reasonably accurate chronology of such events for later objective review by their employers. The Captain himself, a daily participant in these events, could hardly maintain proper objectivity. It is for you, as members of this House of Delegates, during the next few days, to evaluate the reports, minutes and actions of the various segments of this Association—to review the log, in effect—and bring to them the objectivity which only you can do.

I would like, therefore, to merely express a few thoughts that have assumed importance in my mind as the log was written.

During the past 12 months in which I was your President, I have been concerned with many different topics and problems, but almost all of them have been related to some facet of governmental activity.

First, we attempted to organize and train ourselves in the field of economic negotiation as it would apply, initially, to the Medicare program for dependents of the military. This appeared to be a sizeable task, but it was dwarfed rather abruptly by the passage, in the State Legislature in June of 1967, of the legislation implementing phase one of Title XIX of the Social Security Act, better known as Medicaid. This was done with speed that belies the slow and deliberate, if not reluctant pace, of the Missouri mule. This Association's endorsement of Title XIX was based on sound logic and I am pleased that it is now a law in Missouri.

However, neither we, as physicians or, for that matter, the Division of Welfare, the state agency selected to administer Title XIX in Missouri, were quite prepared for such early implementation. The Medical Association, through the Medical Economics Contract Committee, did respond to the urgent challenge which this legislation placed before us.

Hector W. Benoit, Jr., M.D.

The reports of the numerous meetings of this Committee are before you for your consideration. This has been a monumental task and although, certainly, further refinements in our negotiations with the Division of Welfare remain to be accomplished, nevertheless, the spirit of cooperation which now exists between the State Medical Association and the Division of Welfare carries the promise of smoother operation for everyone concerned.

As you know, the State Medical Association has had no such opportunity to establish any type of formal communication with the Federal Government and its administrative agencies for Medicare or Title XVIII. It also should be stated for the record that neither the State of Missouri nor any other state in the Union has had a hand in the implementation of Medicare such as we currently have with Medicaid. I would further point out to those who may at the moment be disenchanted with the way Medicaid is working that the administrative headaches, which are beleaguering the Division of Welfare, although not ours to solve, at least must command our understanding and tolerance.

Another skirmish, shall we say, with the government was met forthrightly, and we thought successfully, last summer in Washington, D. C. We appeared before open hearings of the Internal Revenue Service on their proposed regulations concerning income from advertising in medical journals. They would declare this to be unrelated income to otherwise tax exempt organizations and, therefore, taxable. At that time, it appeared from our observations and from opinions obtained from Congressmen and others in Washington that we had reasonably well accomplished our goal in that skirmish. Much to our dismay, we find in recent months that the fire was only smoldering and is now blazing again. Considerably more force will be needed to control this conflagration than we used last July. At stake in this particular issue is the principle of government by legislation being usurped by administrative regulation. Such an attack on our constitutional form of government is a matter of serious concern to all citizens.

A third area of governmental activity which has commanded considerable time and effort has been the emergence of the comprehensive health planning law passed at the national level in 1966 and subsequent implementation at the state level. I am afraid we have been slow to give this matter the attention it deserves. It is my considered opinion, and that of many others who have studied the problem, that comprehensive health planning presents a challenge to medicine that may well make the problems of Medicare and Medicaid seem quite trivial. Informal contacts with those administering our state comprehensive health planning have led me to believe that we have a role to play here and can expect to be productive in our efforts. However, as of this date, no formal invitation exists to which we can respond. The fact that physicians, who are the prime purveyors of health care in this country, have as yet no formal role in such planning seems a bit paradoxical.

It is quite apparent from what I have already said that the accomplishments of the past year have not exactly been brilliant, as far as demonstrable results are concerned.

My next few thoughts will sound equally cheerful, I am sure.

Certainly none of you have missed the charges leveled at the medical profession for the "unrealistic escalation of health care cost." Such charges totally disregard the problem of national inflation and give no separate identification to the segments of health care costs over which the physician has little or no control. Rather, they emphasize the fact that physicians' fees have indeed increased, by and large.

More significantly, we find that we, as a profession, are vulnerable to these charges when it is realized that a small segment of the profession has indeed raised its fees to an alarming degree. To date, no true, honest, comprehensive study of health care costs has been made by anyone, least of all our accusers in organized labor. In my opinion, two things need to be done about this set of circumstances.

One has been implemented, at least in its initial phase, by the Council, who directed me to appoint a committee to investigate the feasibility of the State Medical Association undertaking an in depth study of total health care costs in the State of Missouri. The preliminary reports of this committee are available to you for your consideration at this time.

The second aspect of these changes, which I feel very strongly must be answered by the profession, is our responsibility to fairly and forcefully police our own members who are derelict in their sense of responsibility to keep their fees reasonable. If we, as a profession, do not demonstrate our ability to do what should be done now, someone else is going to do it, and a sorry day that will be, indeed. This may sound trite and repetitious, but it is so true and so imminent.

As difficult as this last problem may appear, I would like to lime-light another which I consider even more disturbing. I refer to a by-product of our current negotiations regarding physicians' services for patients falling under the Medicaid program. This is the problem of over-utilization of medical services and not just by the over-demanding patient. Certain patients will frequently demand services to which they feel they are now entitled, whether they really need them or not. This aspect of the problem the physician can control individually, if he sees fit to do so, and can gain support for his decisions in these particular cases from county and state Welfare Departments. The over-utilization about which I am most concerned is the infrequent but, nevertheless, consistently repeated example of physicians' over-utilization of the program with little or no regard for the patient's true needs, under the guise of "quality medical care."

It should be self-apparent to everyone, professional and laymen alike, that the only people qualified to establish the quality of medical care are physicians. Over the past 15 years, tissue commit-

(Continued on page 530)

Remarks of David N. Kerr, M.D., President-Elect

David N. Kerr, M.D.

Mr. Speaker, Members of the House of Delegates:

Hector Benoit, as you all must now realize, is a hard man to follow on a platform. I shall not try to match his eloquence.

I think it fair to say that Doctor Benoit's term of office—coming as it did, at a time of crucial transition for the medical profession in Missouri—marks a turning point in the history and the program of our Association. Another man might have held the office under the same circumstances and might not have understood the full meaning of the challenge and the choice that confronts us. Hector gave this Association a rare gift of leadership at a time when it was desperately needed.

It will be my hope and my responsibility to continue to the best of my ability along the new trail he has blazed for us.

I shall have more to say about this new direction in just a moment. For now, I want to express to you, our governing body, to the officers and staff, my feeling that our Association is in a strong position to meet the challenges that Hector has outlined and with which we have already begun to come to grips. If we continue loyally and energetically to work together, I believe we shall achieve great things not only for our profession, but for our patients and the public.

Let me briefly try to summarize the problems that confront us. The first, and by far the most important, is the problem of communication with the individual doctor—the problem of bringing him into awareness of the new environment in which he is going to have to practice and in which he is going to have to live.

The proliferation of public programs related to medical care—the programs of Medicare, Medicaid, regional medical planning, comprehensive health planning, the Office of Economic Opportunity, the Public Health Service, the Children's Bureau—all of them complex, many of them overlapping—put our profession squarely into the center of what I shall call a new arena of public responsibility. If we are to discharge this responsibility, we are going to have to mobilize the profession in Missouri in a way that has never before been attempted.

Our present staff—under the dedicated direction of Ray McIntyre, the administrative support of Tom Fox and now with the field assistance of Don Brummall—is doing everything it can with the resources with which we have to work. We are working diligently to encourage the location of doctors throughout the state in places where they are most needed. We are supporting—and I hope you will vote to support more generously—what I believe to be the outstanding student loan fund in the United States. Furthermore, your support of the Missouri Medical Political Action Committee is especially essential this year.

We are in contact with the planners in Jefferson City. With the help of Dr. Vernon Wilson, we are endeavoring to keep on top of developments in the heart, cancer and stroke program, and many of our members are on the boards and committees of the Metropolitan St. Louis H C and S program. Our Medical Economics Contract Committee has broken new ground in giving coherence and meaning to our position as we come to grips with the brand-new problems of the post-Medicare practice of medicine.

I submit to you, however, that we are not doing enough, until and unless we rethink the purposes of this Association in terms of today's demands and until we provide the resources to give ourselves an organization realistically equipped to meet these demands. We cannot merely see to it that we, the practicing physicians, are properly represented on the various boards and committees. We must give those representatives guidelines on which to work.

Most of us, I believe, are not yet really conscious of what has hit us nor are we conscious of the new role organized medicine in Missouri must play if we are to safeguard values essential to the profession and to the public. The business of providing health care is now the third largest business in the nation. Within the next decade, it is expected to become the Number One industry of the nation. I use the word, industry, advisedly because it is responsibly estimated that more than 6 million people are very shortly going to be engaged in delivering the services for which we, as physicians, are responsible.

To put it another way, it is projected that, by

1975, national expenditures for health will amount to $100 billion or one-thirteenth of the total gross national product.

The American people have determined by their votes and their voluntary choices that health is at the very top of their priority list.

This determination, as we all must recognize, means that we, as a profession, must prepare ourselves to take a role of public leadership that traditionally has not concerned us and that, even now, is repugnant to many. The fact is, however, whether we like it or not, we are—or ought to be—the key controlling determiners of the policies that will direct the vast system of comprehensive health care that is now emerging—a system that may be compared with that of our public utility network.

We are going to have to negotiate with public bodies. We are going to have to lead in determining standards, programs, cost levels and all the rest. If we do not guide these determinations, they will, nevertheless, be made without us.

Coming now specifically to our Association, I think it fair to say that the provision of health care is already one of the very biggest economic facts in the life of our state. The Missouri State Medical Association is the only instrument we have to represent us all and to stand for the values we hold to be essential.

If I were to compare the capabilities, the resources, the budget of our Association with the well-organized staff organizations of the gas, electric and telephone utility companies in our state, I think you would at once see the wide disparity.

Yet, in simple dollar terms, the delivery of effective health care to the people of this state—for which we, in the last analysis, are responsible—is a bigger business than that of any Missouri utility corporation.

I am aware that the Constitution and By-Laws Committee is studying ways to make our committee structure more efficient. I am aware that dedicated doctors are giving more and more time to the problems and the program of the Association. I know that we have underway plans for an objective study of doctors' fees as a component of health care costs.

All this is great, but it will not get the job done.

None of us, as a practicing physician, can beg, borrow or steal the time for what ought to be staff functions of research, analysis, communication, program drafts—all the necessary groundwork jobs that need to be done before action can be effective under the circumstances facing us today.

I think of this House of Delegates, the Council and, indeed, the membership of MSMA as stockholders, directors and officers of an effective corporation.

The time has come when doctors themselves can no longer operate the corporation to the degree we have sought to in the past.

We need to be as effective as a public utility corporation. We need to be as effective as the Missouri Farmers Association. We need to be as effective as a mining or manufacturing or any other kind of big corporation you can think of. We need to give Ray McIntyre the support and staff he'd need to do the job we need done, because our responsibility is big. Our business is big. And both are going to get bigger.

I should like, in conclusion, to call your attention to Page 14 of the Report of the Council in your Delegates' Handbook. I ask your earnest consideration of the recommendation adopted by the executive committee at the instance of Doctor Benoit.

I ask you to adopt that recommendation and direct the Council to give urgent thought to the immediate formation of a planning committee to consider goals and further activities of this Association.

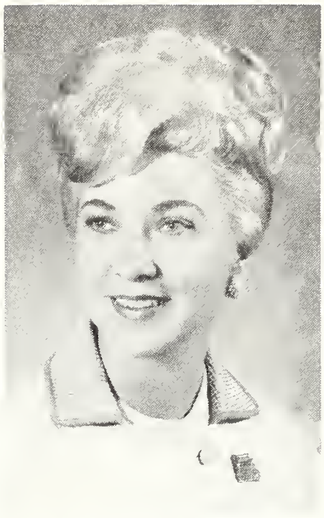
The matter appears to me to be of such urgency that I can consider the possibility of an interim session of this House to act without delay in defining a new Association structure, a new level of dues and a new and stronger staff capability. Such a session might be considered the logical outgrowth of the meeting of presidents and secretaries of constituent societies instituted with great success last fall in Columbia. It could well result not only in fundamental steps to strengthen the structure and the program of MSMA, but also in building better understanding and cooperation within the profession—the House, the Council, the State officers, the staff and all the 52 constituent societies that make up our Association.

It is essential, I believe, that we move now with imagination and strong initiative to prepare ourselves to come to grips with the problems and the challenges that are going to be with us, not just in the year ahead, but for the long future, in a dynamically changing society and a dynamically expanding era of medical knowledge and medical competence.

We have to make a big move forward. We have to make it now.

UNIVERSITY OF MARYLAND

Report of Mrs. John M. Williams, President of the Woman's Auxiliary



Mrs. John M. Williams

Mr. Speaker, Doctor Benoit, Members of the House of Delegates and Guests:

I appreciate the time you give me to bring you the thanks of the Auxiliary for the fine support you, your President and Mr. Ray McIntyre have shown to us this year. We are grateful for the opportunity of presenting Auxiliary views and projects in the MISSOURI MEDICINE articles which our President writes each year. Our thanks go to you for the funds that make communication to our entire paid membership possible: 2,000 copies of our ℞ *Auxiliary News* were mailed out each quarter this year. The quality and coverage of this publication continues to increase each year. I can assure you our membership would suffer greatly without this paper.

I will not list all the community and health services contributed by your wives. The total Missouri endeavor added to that of the other 49 states of the National Auxiliary presents a staggering amount of woman-hours, great accomplishments in some areas and an amount impossible to measure of good public relations from over 90,000 doctors' wives. Our membership remained about the same in Missouri. We had a new auxiliary organized in SEMO counties but we lost Perry-St. Genevieve Auxiliary.

Our October Fall Conference in Columbia had the largest registration to date—117 registered members and guests. The attendance and participation of Doctor Benoit and Doctor Matthews added much to this two-day workshop session for county officers and chairmen. Our emphasis was on Legislation and Health Careers. The program included our National Auxiliary Health Careers Chairman and Dr. John Walters. Our State Health Careers Chairman serves as a representative on Doctor Walters' Committee on Nursing and Paramedical Personnel and they have been working toward a program which would include the efforts of our county auxiliaries. Health Careers continues to be the area in which our auxiliary members seem to function with more visible effectiveness. Legislation and political involvement is another field in which our women could work more diligently with more specific direction.

The need for the Homemaker-Home Health Aide becomes more apparent as the lack of hospital space and shortage of nursing homes grows critical. Our National Auxiliary strongly encourages us in the establishment of this service, but it is so ambitious a project that it is virtually impossible to get started without the cooperation of other community health agencies. Greene County Auxiliary is the first Missouri Auxiliary to achieve the impossible. This year they trained four Home Health Aides—a small start but representative of much hard and exhaustive work by these women. We are extremely proud of this achievement.

I benefited greatly from the invitation and opportunity to attend your POW-WOW Session in Columbia the week after our own Fall Conference there. It is extremely helpful to a State President to be able to listen to the problems that confront your Medical Association and your methods of working out communication and acceptance. The added bonus of meeting and talking with the AMA President, Doctor Rouse, was certainly a pleasure and inspiration. He is 100 per cent behind Auxiliary membership. It has been my hope this year to encourage more wives to Auxiliary leadership and community leadership. We have attempted to improve continuity in office with an orientation meeting for state officers and chairmen held last May as an experiment. We are in the process of compiling official notebooks for each officer and chairman. I have traveled far and often and was fortunate to be attending Southern Medical Auxiliary Convention in Miami Beach when Lafayette-Ray Auxiliary won an honorable mention and Pettis County Auxiliary won a silver cup for their Doctors' Day observances. I could do not less than go with our State Doctors' Day Chairman to a meeting arranged with Governor Hearnes earlier this month in his office when he signed the Proclamation declaring March 30 Doctors' Day in Missouri. I had an uncomfortable feeling from the beginning that must be similar to attending a party to which one has not been invited. I felt sure the Governor could visualize my Republican voting record. However, he was most gracious and we have a photograph to prove we were there. Since our Doctors' Day falls on this coming Saturday during Convention, Doctor

Benoit, I present to you the Proclamation signed by the Governor and, even more interesting, a check from the State Auxiliary for your Medical Foundation as our tribute to the Association on Doctors' Day.

At a recent Lincoln Day Dinner in Kansas City, several leading Republican leaders aluded to nine months' anticipation, pregnant possibilities and each reference became a little more interesting and way out, much to the amusement of all. Going along this line a bit, I cannot help thinking that being a State President is much like having a baby. You are sure you are going to get through it because so many women have managed it before you; you can only learn how to do it through experience, but, by the time you have accomplished it, it is not an experience that you are anxious to go through again.

Nonetheless, this has been a wonderful and rewarding year for me. One gains a dedication of service and a convincing knowledge that our National Auxiliary is only as successful as the states that produce it—that the state auxiliary accomplishes only the sum total of individual county effort. So, as individual doctors' wives, the beginning responsibility for greater membership, participation and effort is right here at home. Thank you all for helping me and the Auxiliary through another progressive year.

UNIVERSITY OF MARYLAND

Hector W. Benoit, Jr. (cont'd)

tees in our hospitals throughout the country have served a most salutory purpose in bringing to the irreducible minimum, the incidence of unnecessary surgery. But what has the profession done to control the irresponsible physician who subjects his patient to every diagnostic tool available in the evaluation of such a patient, who suffers only from a singular or minor illness? What has been done to control the physician who administers injectible medications with a fantastic frequency and with no regard to the efficiency of the treatments whatsoever?

Now that the government is paying for these services, it has come to our attention that many services are being rendered far in excess of what the record would indicate are necessary in a disturbing number of instances. If the medical profession does not immediately concern itself with this problem of determining what is quality medical care, then someone who is paying the bill for it will do so. The eventual debacle which would ensue if the medical profession fails in this activity will be something that no patient or physician would ever want to have happen in this country.

Do the people of America want a third party deciding "Yes, you need a gastrointestinal series" or, "No, you don't need a shot of B12"? Shall a government agency determine who is to have a heart valve operation or should a physician decide that a cast on a fractured limb should be changed in three weeks instead of six?

The first serious indication that non-professional people are preparing to make medical decisions is to be found in the current hearings in Congress regarding artificial organ transplantation. If we need an act of Congress, gentlemen, to tell a physician when someone is dead or who is entitled to an organ transplant, then the curriculum of our medical schools might better be transferred to that of our law schools.

My point is this—within the ranks of our profession, there are a few people who are practicing medicine almost exclusively for the monetary benefits to be derived. They are charging outlandish fees and, even worse, under the guise of so-called quality medical care are over-diagnosing and overtreating patients in an abysmal manner. This problem, for the sake of the people as patients and the people as taxpayers as well as for the sake of the profession, must be solved and it must be solved by the profession and no one else.

For the honor you have conferred upon me this year, I am truly grateful and I will always cherish the memory of this year. To my successor, Dr. David Kerr, my apologies for stirring up so many problems while providing so few answers. To Dr. Doyle McCraw and the Councilors, to the committee chairmen and members and to Mr. Ray McIntyre and his staff, who have all worked so hard this past year—I extend my sincere thanks. I express this thanks personally, of course, because without their efforts my administration would have been meaningless. More important, I commend them to you for your acclaim—they have served you wondrously well.

Annual Session Minutes (cont'd)

tive Committee of the Council, with the help of Dr. Wilson, prepare a statement that could be used at the Advisory Council meeting on Tuesday reflecting our attitude and feelings about the Comprehensive Health Planning Program in Missouri.

Dr. Franklin presented the Financial Report of the Association as of January 31, 1968, stating that the cash balance on hand was $51,295.42, plus a Certificate of Deposit of $15,000.00, making a grand total of $66,295.42. He also stated that the financial result of the activities of the Association for the year 1967 was an excess of income of $28,268.18 over expenses. He mentioned that the 1967 Audit of the Association's accounts will be published in the March, 1968 issue of Missouri Medicine and also will be included in the Delegates' Handbook for the 1968 Annual Session. On motion, duly seconded, the Treasurer's Report was approved.

Dr. Matthews presented the present status of the following bills now pending in the Special Session of the Missouri Legislature:

S.B. 3—Permissive legislation to allow a city of not less than 400,000 and not more than 700,000 inhabitants (Kansas City) to levy a tax annually for hospital purposes upon the real and tangible personal property not to exceed the annual rate of 48¢ per $100 assessed valuation. The bill was referred to the Committee on Municipal Corporations and is still in Committee.

S.B. 9—Relates to tubercular patients in the Kansas City General Hospital and Koch Hospital in St. Louis to raise the per diem from $10 to $15 per day per patient. Presently is on the informal calendar for perfection with Senate Amendment No. 1 "Pending." This amendment would change the per diem from $15 to $20 per day.

S.B. 29—This bill would permit the Director of Welfare to "buy in" Title XVIII-B for Title XIX recipients 65 years of age or over. The bill was perfected January 31, 1968 in the Senate with an emergency clause. Dr. Matthews reported that the Council had referred to the Legislative Committee the Maternal Welfare Committee Report proposing a basic policy for MSMA concerning any Missouri Abortion Laws for study and evaluation. The suggested policy statements were sent to each member of the Legislative Committee and they were asked to send in their approval or disapproval. Of the seven members of the Committee, five reported approval, one abstained and one minority report stated definite disapproval of the proposed changes. As a result, this was not a unanimous decision and it should be stated that the majority approved these guidelines for abortion legislation in Missouri. Dr. Matthews reported that the Legislative Committee's position was that the majority favored the Maternal Welfare Committee's proposed policy statements but that we should neither support nor oppose changes in the present law at this time.

On motion of Dr. Matthews, duly seconded, the report of the Legislative Committee was approved.

Dr. Kendis reported that the Committee on Alcoholism met on January 28, 1968 and reviewed the minutes of the meeting, calling attention to a pamphlet entitled "Criteria for Admission of a Patient with Alcoholism to a General Hospital." He suggested it might be well to have copies of this article distributed to the Council.

He reported that a meeting is being planned with leaders of the St. Louis Blue Shield and Blue Cross to discuss coverage available and how it could be improved. The Committee agreed to hold this meeting prior to the Annual Session of MSMA, so that a report could be made to the 1968 House of Delegates.

Dr. Kendis then reported on court action in regard to alcoholism and stated that two courts of appeals ruled that an alcoholic could not be jailed for being intoxicated. He reported that one such case would be considered by the U. S. Supreme Court in January, 1968 and that a ruling would be available possibly some time prior to June 1, 1968. It was suggested by the Committee that, without waiting for final action of the Supreme Court, letters should be sent to the president of each local medical society informing him of the pending action and the expected increase in medical care for alcoholics. It was pointed out that members of the Committee on Alcoholism would be glad to appear before any local medical society in the state regarding detoxification and patient referral. It also was pointed out that one member of the Committee agreed to present an editorial on this subject for publication in Missouri Medicine.

Mrs. Richard A. Sutter, Past-President of both the MSMA and AMA Woman's Auxiliaries *(center)*, received a standing ovation following her address at the MSMA Woman's Auxiliary luncheon on Saturday. *(Left)* Mrs. E. H. Trowbridge, Jr., Director of the MSMA Auxiliary's 7th District and *(right)* Mrs. Dwight L. Wilbur, whose husband was 1967-1968 President-Elect of AMA, join in the applause. Mrs. Sutter's address was published in the March, 1968 issue of Missouri Medicine.

The Committee also requested that an educational exhibit booth on alcoholism be set up at the 1969 Annual Session of MSMA to be sponsored jointly by the Missouri Program on Alcoholism and the MSMA. Other items considered were continuation of the Committee on Alcoholism, inclusion of meetings on alcoholism, especially in General Practitioners meetings, education of the public, cooperation with the State Department of Education regarding student information on alcoholism and MSMA offering any assistance possible to the Missouri State Alcoholism program.

After discussion, on motion of Dr. Benoit, duly seconded, the report of the Committee on Alcoholism was approved.

UNIVERSITY OF MARYLAND

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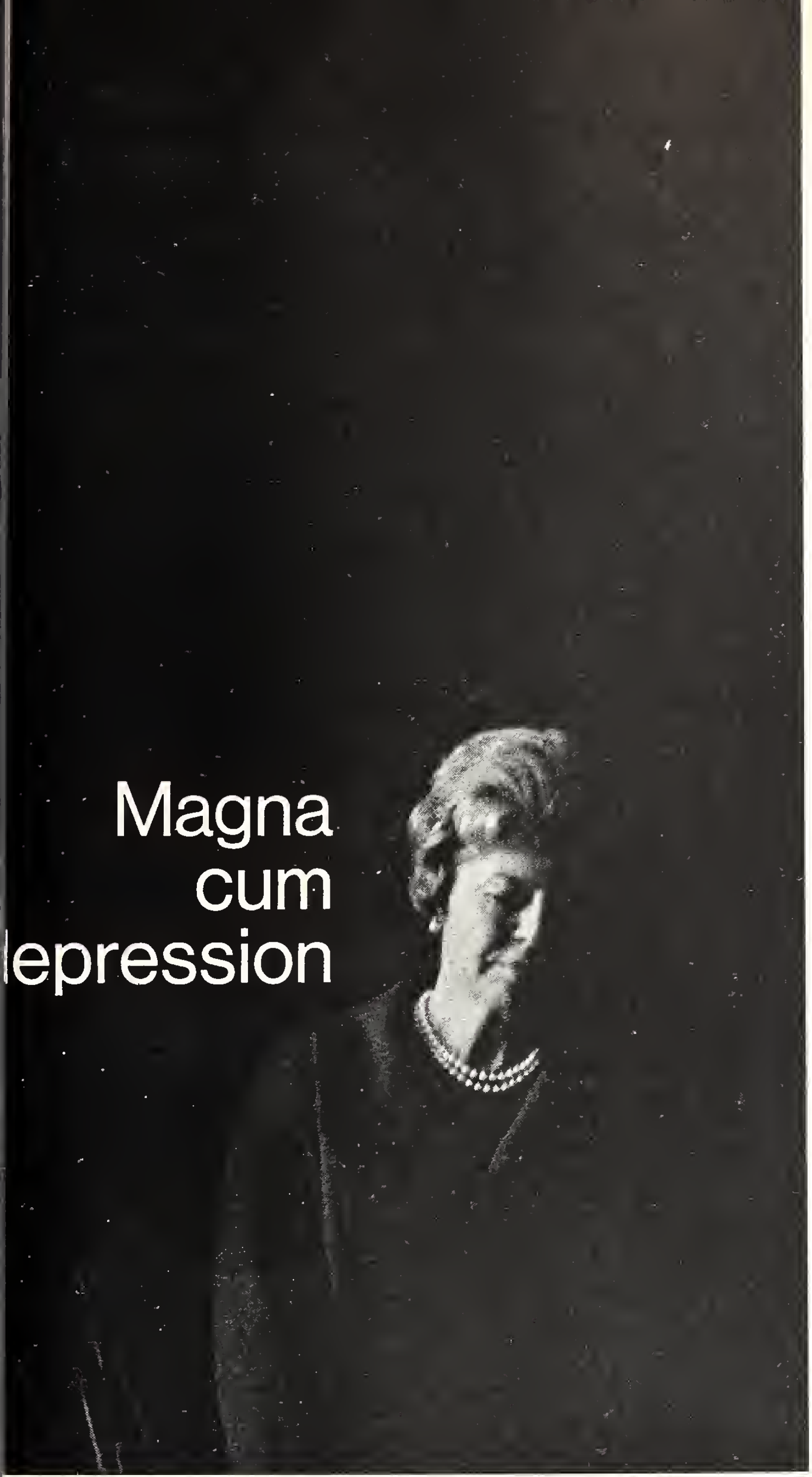
Indications: Tofrānil is recommended for the treatment of depressive states of diverse psychopathology.
Contraindications: The concomitant use of this agent and monoamine oxidase inhibiting (M.A.O.I.) compounds is contraindicated. Hyperpyretic crises or severe convulsive seizures may occur. Potentiation of adverse effects can be serious or even fatal. An interval of at least 7 days after M.A.O.I. therapy has been discontinued should be allowed before this drug may be substituted. Initial dosage should be low, increases should be gradual, and the patient's progress should be carefully observed.
Warning: Clinical reports have suggested that there may be a risk of teratogenesis associated with the use of this compound during the first trimester of pregnancy. Unless, in the opinion of the prescribing physician, the potential benefits outweigh the possible risks, it should not be used during the first trimester of pregnancy. Cardiovascular complications, including myocardial infarction and arrhythmias, have occasionally occurred in susceptible individuals. Patients with cardiovascular disease should be given the drug only under careful observation and in low dosage.
Precautions: Since suicide is always a possibility in severely depressed patients and one which may persist until significant remission occurs, such patients should be carefully supervised during early treatment. Some severely depressed patients may also require hospitalization and/or concomitant electroconvulsive therapy. Because of its anticholinergic effect, caution should be observed in prescribing the drug for patients with increased intraocular pressure.
In rare instances, transient cardiac arrhythmias have occurred in hyperthyroid patients and in patients receiving thyroid medication when this compound was added to the regimen.
Imipramine may block the pharmacologic activity of guanethidine a other related adrenergic neuron-blocking agents.
The drug is not recommended at t present time in patients under 12 of age.
Adverse Reactions: Dryness of the mouth, tachycardia, constipation, turbances of accommodation, swe ing, dizziness, weight gain, urinar frequency or retention, nausea an vomiting, peripheral neuritis, mild parkinson-like syndrome, tremors rare cases of falling in elderly patients, confusional states (with su symptoms as hallucinations and d orientation), activation of psychos schizophrenics and agitation (incl ing hypomanic and manic episode which may require dosage reducti



For him, commencement.

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Tofrānil can often relieve the symptoms of her depression. If it can relieve her mental anguish, you may be able to help her graduate into a new and fruitful life of her own.

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in depression

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In patients with cardiovascular disease, hyperthyroidism or increased intraocular pressure; in those receiving anticholinergics (including antiparkinsonism agents), thyroid medication or adrenergic neuron-blocking antihypertensive agents; and in those in the first trimester of pregnancy, the precautions discussed in the Prescribing Information should be carefully observed. Although toxic reactions severe enough to require discontinuation of Tofrānil are uncommon, please refer to the Prescribing Information for a description of such instances when discontinuation may be necessary.

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tpatient Adult Dosage: Initially,
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ssible.

Geriatric and Adolescent Dosage: Initially, 30 or 40 mg. daily, which may be increased according to response and tolerance. It is usually unnecessary to exceed 100 mg. daily.
A lag in therapeutic response, lasting from a few days to a few weeks, should be expected. When dosage recommendations are already being followed, increasing the dosage does not normally shorten this latency period and may increase the incidence of adverse reactions.
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Mr. Fox presented the report of the Missouri State Medical Foundation stating that the books of the Foundation had been audited and the cash balance on hand as of December 31, 1967 was $41,986.60. However, it was pointed out that the Spring loans had used $21,850.00 of the balance shown for December 31, 1967, leaving a balance of $20,136.60, and income for January, 1968 (repayments and contributions), was $2,107.55, showing a balance of total cash on hand as of January 31, 1968 in the amount of $22,244.15.

He reported that the Financial Statement of the Foundation would be included in the Delegates' Handbook for the Annual Session. It also was pointed out that substantially all of the funds of the Foundation are currently on loan and an increased number of applications is expected over the next several years. At the same time, loan payments will be delayed because of military service by the student.

After discussion, on motion of Dr. Benoit, duly seconded, it was agreed (with one dissention), that the following resolution be presented to the 1968 House of Delegates:

Resolved, That an annual assessment of ten dollars ($10.00) be added to the dues of each active member of the Missouri State Medical Association and five dollars ($5.00) for junior members of the Association for the three-year period 1969, 1970, 1971, for the support of the Missouri State Medical Foundation.

Dr. Benoit presented a testimonial letter received from one of the students, who had repaid his loan in full, thanking the MSMF for their assistance and stating that he was happy to be able to repay his loan so that the money could be used to help other medical students.

Discussion followed regarding a small pamphlet or brochure to be sent with each check calling attention to where the loan was obtained and setting forth the reasons why the Foundation was formed. On motion of Dr. Stuart, duly seconded, it was agreed that MSMA pay for the printing of a brochure to accompany the Foundation checks and which will be designed by the Art Department of the University of Missouri.

Mr. Proctor Carter, Director of the Division of Welfare; Dr. Loyd, Medical Director of the Division of Welfare; and Mr. Singleton of the Division attended the Council meeting to discuss some of the problems encompassed during the first three months of the Medicaid program and to answer questions relative to this program. Mr. Carter stated that full cooperation of the medical profession was needed to operate the program, that physicians' charges were based on a usual, reasonable and customary basis and that a minimum amount of difficulty was being encountered.

Dr. Loyd discussed some of the problems in the matter of physicians' fees, stating that in most cases the physicians were participating according to the level of fees submitted for their particular specialty. However, in some areas, bills had to be reviewed by the medical review teams. He also discussed the nursing home situation, stating that he had collected data from other states and all were having trouble. He suggested it might be advisable to have a small Advisory Committee from MSMA on Nursing Homes representing different areas of care to assist in the Missouri Medicaid Program. Dr. Loyd also requested some recommendations or thoughts from the Council on the control of the number of routine visits per day. After lengthy discussion, on motion of Dr. Benoit, duly seconded, it was agreed that the matter of nursing home care under Title XIX, the matter of over-utilization and the matter of physicians fees for services rendered in free hospitals be referred to an early meeting of the Medical Economics Contract Committee.

Dr. Walters, Chairman of the Committee on Nursing and Paramedical Personnel, reported that the Committee had held two meetings, one on November 12 and another on November 30, for the purpose of exchanging information and coordinating efforts of all interested organizations in nurse recruiting and refresher training.

Dr. Walters reported that the Committee approved a resolution to be sent to Governor Hearnes for his consideration and action regarding the shortage of nurses in the United States and, particularly, in Missouri. He stated that only 222 registered nurses per 100,000 population were available in Missouri. The Missouri Nurses' Association, the Missouri League for Nursing, the Missouri Hospital Association, the Missouri State Medical Association and the Missouri Division of Health urged that immediate attention be directed to the critical need for nurses in Missouri, with support given to the development of programs to meet this need, and requested that the Governor take necessary gubernatorial action that would lead to exploration of all possible steps to avert a very real threat to optimal health care for the people of Missouri.

Dr. Walters requested Council approval for the following recommendations: (1) Continue operation of the Clearing House by the Woman's Auxiliary; (2) Continue support of local Auxiliary Chapters on Medical Careers; (3) Urge gubernatorial action to increase available nurse manpower in Missouri; and (4) Urge adequate pay schedules.

After discussion, on motion of Dr. Gunn, duly seconded, it was agreed that the suggested recommendations of the Committee on Nursing and Paramedical Personnel be implemented and approved.

Dr. Neilson reviewed the minutes of the Committee on Venereal Disease for the chairman, Dr. Powell, who was unable to attend. He reported that the Committee met on November 10 and on January 17, 1968, to review the results of the Missouri University Survey regarding present VD problems and the pilot study which was held in Boonville. It was suggested that the Missouri University School of Journalism prepare articles for public information and education. It was noted that the pilot study in Boonville indicated that schools and physicians, in that order, were the most acceptable sources of health education. It also was suggested that any programs introduced in the public school system should be with the approval and consultation of the local county medical societies and with the participation and/or support of the local Parent Teachers Association. It was reported that pilot programs are being contemplated in several areas including St. Louis, Springfield and Columbia.

Dr. Neilson reported on the (RPR) card or circle test for syphilis and its use in the Deaconess and St. Joseph's Hospitals in St. Louis. It was reported that the Committee agreed that this was an accurate test, slightly more sensitive than the present VDRL and cheaper than the VDRL. However, because of its certain physical drawbacks and the problem of suitable controls and reporting, it was suggested that review and possible recommendation of this test by the MSMA

Laboratory Medicine Committee might include recommendation that such tests be performed by accredited laboratories only. After discussion, on motion of Dr. Benoit, duly seconded, the Report of the Committee on Venereal Disease was approved.

Dr. Wiegand presented the report of the Medical Economics Committee which met in St. Louis on January 21, 1968 with representatives of St. Louis Blue Shield in an effort to resolve some of the existing problems and to discuss the resolution of the Ozarks Medical Society which was referred by the 1967 MSMA House of Delegates to the Council. It was reported that the Council of MSMA has charged the Medical Economics Committee with the responsibility of studying the St. Louis Blue Shield activities in relation to this resolution. Dr. Wiegand reported it was generally agreed that confusion existed between Blue Cross and Blue Shield regarding their purposes and functions and that efforts should be made by MSMA to educate the physicians on the difference between Blue Cross and Blue Shield. It was pointed out that St. Louis Blue Shield is a separate corporation from MSMA. Discussion followed regarding representative physicians who make up the Voting Board of St. Louis Blue Shield and it was suggested that local medical societies submit names of physicians to the Blue Shield Nominating Committee for consideration for proposed membership on the Voting Board. It was explained that the Voting Board could possibly be increased and that, at the present time, each district has a certain number of representatives. Mr. O'Brien explained that no one may serve for more than three terms of three years each and that there has been considerable change in board membership in the last six or seven years. He also explained that representatives from county medical societies were invited to every annual meeting of Blue Shield, but that no more than two or three have attended.

Dr. Wiegand reported that the following recommendations were approved by the Medical Economics Committee for Council consideration:

1. Continued endorsement and support of Missouri Medical Service (St. Louis Blue Shield) be given by MSMA and component medical societies seek a greater voice in the activities of Blue Shield.

2. The Medical Economics or another appropriate committee of MSMA be designated to establish annual liaison with representatives of Blue Cross, Blue Shield and Health Insurance carriers, such as Health Insurance Council, and report to the MSMA Council concerning (a) plans, (b) development and (c) improvement of existing programs. The purpose of this Committee shall be to encourage implementation and improvement of health care programs for the people of this state. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that the Medical Economics Committee report be approved with the addendum that this is a preliminary report and that further negotiations will continue.

Dr. Wiegand also reported that he had attended the AMA National Conference on Health Care for the Poor which was held in Chicago on December 15, 16, 1967. He stated that a general session was held in the morning of the first day and in the afternoon of the second

PHYSICIANS
TO RECEIVE
50
YEAR PINS

Seven Missouri physicians were present to receive their 50-year pins at the 1968 Annual Session. *(Left to right)* Drs. Fred W. Teiber, Goronwy O. Broun and Bennett Y. Alvis of St. Louis; Dominic M. Nigro, of Kansas City; Hugh W. Maxey of Jefferson City; Hugh L. Dwyer of Shawnee Mission, Kan.; and James A. Tesson of Kansas City. Thirteen other MSMA members who had completed 50 years in medical practice were not present for the ceremony.

and final day. In between these sessions, eight workshops were held and participated in by all the delegates. The general topics discussed were (a) current health care status, (b) basic casualties and (c) current programs. It was pointed out that all efforts should be made to apprise physicians, medical schools and medical societies of existing conditions and solicit their cooperation in remedying same. This not only means as it refers to medicine, but also to housing, job opportunities, etc.

Dr. Wiegand reported on the AMA's 2nd National Congress on the Socio-Economics of Health Care to be held in Chicago on March 22, 23, 1968. He said that a copy of a letter had been received from the Ohio State Medical Association objecting to the subjects included in this program and stating that it centered too much around corporate or group practice of medicine. Dr. Neilson reported that letters had been sent over his signature to presidents of state medical associations objecting to this program, also, and suggested that the Council designate a representative or two to attend this meeting to determine its purpose. It was suggested that a member of the Medical Economics Committee be appointed to attend this meeting. On motion of Dr. Gunn, duly seconded, it was agreed that two members of the State Medical Association be requested to attend with expenses paid (Drs. Winn and Neilson).

On motion of Dr. Miller, duly seconded, it was agreed that the President be authorized to send a letter of protest to the AMA conveying our position in this matter.

A statement which was prepared for presentation by Dr. Wilson to the Advisory Council was read. On motion of Dr. Gunn, duly seconded, the statement was approved to be presented to the Advisory Council at its meeting on Tuesday, February 6, if deemed necessary.

Dr. Fisher reviewed the MSMA By-Laws relating to the Committee on Publication and the Editorial Board of Missouri Medicine which states that the Committee on Publication shall be appointed annually by the Council, that the Editor of the journal shall be designated by the Council and shall also serve as Chairman of the Committee on Publication. The Editor also shall be empowered to nominate an Editorial Board consisting of members of the Association and subject to approval by the Council. On motion of Dr. Fisher, duly seconded, it was agreed that Dr. Finnegan be reappointed as Editor of Missouri Medicine.

On motion of Dr. Benoit, duly seconded, it was agreed that the members of the Publication Committee be reappointed. The members of this Committee are: Drs. Richard H. Kiene, Kansas City; C. G. Stauffacher, Sedalia; R. O. Muether, St. Louis; Ben M. Bull, Ironton; and Joseph V. Finnegan, St. Louis, Chairman.

Dr. Finnegan recommended that the following members be appointed to the Editorial Board: Drs. Robert K. Skillman, Kansas City; Wilfred E. Wooldridge, Springfield; Robert L. Jackson, Columbia; John W. Berry, St. Louis; Donald J. Mehan, St. Louis; and John S. Spratt, Jr., Columbia; James N. Haddock, Clayton; Thomas M. Meier, St. Louis; Barney Finkel, St. Louis; Leo Neu, Springfield; Charles R. Willman, St. Joseph; Wayne A. Simril, Clayton; William A. Leo, Kansas City; Richard D. Blim, Kansas City; Bentley A. Nelson, Kansas City. After discussion, on motion of Dr. Stuart, duly seconded, the recommended members of the Editorial Board were approved.

Dr. Ulett presented a brief report regarding programs now in progress under the supervision of the Division of Mental Diseases regarding the care of the mentally ill and the care of the mentally retarded in Missouri. He stated that Dr. Harold Robb is in charge of the mental retardation program. He reported that in 1961 the Division of Mental Diseases had 17 psychiatrists working in the Division and that, as of 1967, they now have 86 psychiatrists. He added that they were getting good support from the State Board of Healing Arts. He reported that three regional community health centers are now in full operation in Kansas City, Columbia and St. Louis. He reported on the Mentally Retarded Programs, stating that in the Marshall and St. Louis State Hospitals, the waiting list has been cut down to approximately one-half and the number of physicians in these units should be increased, as well as other personnel. He reported that Regional Diagnostic Treatment Centers for the Mentally Retarded are being established in Albany, Joplin, Kirksville, Kansas City, Sikeston, Poplar Bluff, Springfield, Hannibal and Rolla. Four of them are now in operation and are multi-purpose units where treatment can be administered to patients close to their homes. He stated that Dr. Robb was in charge of these units in the Central Office and that the medical care has been on a contractual basis with local community physicians. Each unit will have 40 beds.

Dr. Benoit reported that a letter had been received regarding the Retardation Center in Kirksville which would require an answer. It was suggested that a reply should be sent explaining the situation and expressing the hope that the M.D.'s would actively participate and would work out a suitable compromise in that area.

On motion of Dr. Miller, duly seconded, it was agreed that the President be authorized to acknowledge this letter, stating that the Council approves the compromise which has been developed and that we are hopeful that the M.D.'s will participate in this program and that a close watch will be kept on this operation.

Dr. Pernoud presented the report of the Committee on Eye Health stating that the committee did not meet, but did conduct a mail poll regarding the Glaucoma Screening Feasibility program as proposed by the Division of Health of Missouri. Responses, he reported, were received from ten of the 13 members of the committee. Of the ten replies received, nine members approved the program and one disapproved. Dr. David Langerman, Consultant Ophthalmologist of the Missouri Division of Health, appeared before the Council to answer questions and explain the program. He reviewed the objectives of the program as follows:

1. To make the physician aware that glaucoma is a medical problem.
2. To educate and inform the public that detection is available through his family physician or internist.
3. To help the physician avoid the dangers of antispasmodic drugs.
4. To help the physician limit the use of local and systemic steroids for allergies.
5. To help the ophthalmologist elucidate the natural history and progression of glaucoma.
6. To detect blood relatives of patients with glaucoma before the onset of irreparable visual damage.

After discussion, on motion of Dr. Kerr, duly seconded, it was agreed to accept the report of the Eye Health Committee and authorize the Division of Health to proceed with the screening program with the provision that, prior to implementation, physicians and groups of interested individuals be contacted before any statement is made to the public and a report be made to the Council regarding whether or not the physicians and groups contacted will accept the program.

Dr. Yore presented an up-to-date version of the Annual Session program and stated that the program would be published in the March issue of Missouri Medicine. He also called attention to the luncheons and dinners that were scheduled and the revised format for the annual banquet. He asked the Councilors to urge the members from their respective districts to attend the Annual Session. On motion of Dr. Wray, duly seconded, the report was approved.

Discussion followed regarding the Council meeting during the Annual Session which was usually held on Thursday morning before the first session of the House of Delegates on Thursday afternoon. Because of the time element, it was suggested that the Council hold its meeting on Wednesday evening, March 27, beginning at 6:00 PM with dinner. On motion of Dr. Wray, duly seconded, it was agreed to have a dinner meeting of the Council on Wednesday, March 27, at 6:00 PM.

Dr. Benoit proposed that the MSMA make an in-depth study of health care costs in Missouri and that a report of this study be made to the 1968 MSMA House of Delegates, if feasible. Further, he proposed that a suitable resolution based upon this study then be considered for possible introduction at the 1968 AMA session in San Francisco. He explained that such a study was needed to inform the people of this state regarding the true health costs and their reasons and their relation to the overall economy.

Dr. Miller moved that the President appoint an ad hoc committee to carry out this study with authority to consult with representatives of other organizations and groups playing a part in health care costs. The motion was seconded and carried.

Dr. Benoit presented a brief report of the Executive Committee meeting of Friday evening, February 2, which contained the two following recommendations to the Council: (1) That available office space adjacent to our present office be acquired. (2) That the Council give serious consideration to the formation of a Planning Committee to consider goals and future activities of the Association.

On motion of Dr. Miller, duly seconded, the report of the Executive Committee was approved.

Doctor McCraw then presented a supplementary report on the Council meeting of Wednesday evening, March 27, 1968 prior to the opening of the Annual Session. He reported as follows:

"Doctor Benoit announced that the following members had been appointed to serve on the Ad Hoc Committee on Medical Care Costs: Drs. Max S. Franklin, St. Louis; Miles C. Whitener, St. Louis County; Francis M. Maple, Springfield; John A. Buesseler, Columbia; and John H. Mayer, Jr., Kansas City. Doctor Buesseler was elected Chairman of this Committee.

"Doctor Buesseler reviewed the report of the February 14 meeting of his Committee, stating that the purpose of the Committee was to determine the feasibility of a study of health care costs in Missouri, how extensive a study should be undertaken, what cost factors would be involved and what other interested parties, if any, should be invited to participate.

"He reported that the Committee also met on March 27 in the Jackson County Medical Society office and, at this meeting, a proposal from a research organization for this type of study was presented and is currently under consideration. He stated that a meeting is being planned for Saturday, March 30 to further study the proposal.

"Dr. Buesseler reported that at the first meeting, the Committee agreed that (1) any study of medical care costs in Missouri should be made by a disinterested, but knowledgeable, research organization; (2) the study should be published regardless of the findings or conclusions; (3) the AMA should be questioned concerning its interest in possible activity in this field and possible financial aid for this project; and (4) MSMA and its component county societies should seek member-physician approval of the project and individual physician cooperation.

"It was explained that Doctor Buesseler's report was informational only. After discussion, on motion of Dr. Gunn, duly seconded, it was agreed to accept the report with the provision that no publication of any study be made without approval of the Council."

(The Speaker referred this portion of the report to the Reference Committee on Reports of Officers.)

Doctor McCraw continued with his report of the Council meeting:

"Dr. Kendis gave a brief report of the meeting of the Committee on Alcoholism which was held on February 26 in St. Louis with representatives of Blue Cross Hospital Service of St. Louis, the Health Insurance Council, the Missouri Alcoholism Program and Missouri Baptist Hospital.

"The Committee reviewed the resolution approved by the 1967 House of Delegates which recommended that alcoholism patients be accepted by hospitals and insurance carriers as are victims of other diseases. It was reported that insurance carriers generally will approve coverage for alcoholism patients admitted to general hospitals, but will not approve claims for such patients admitted to psychiatric centers, rehabilitation centers or extended care facilities. Length of stay of alcoholism patients was reported in Missouri as an average of three to four weeks, with state hospitals reporting seven to eight weeks. After discussion, on motion of Dr. Gunn, duly seconded, the report of the Committee on Alcoholism was approved with commendation.

(The Speaker referred this portion of the report to the Reference Committee on Medical Education.)

"Dr. Ulett reported his disappointment because the special session of the Legislature of Missouri failed to pass House Bill No. 9, the Capital Improvements Appropriations Bill, which included, among other appropriations for the Division of Mental Diseases, the money needed for an Emotionally Disturbed Children's Program. He said plans eventually are to build five units, one in each of the State Hospitals in Missouri. He said the Division had requested $3.8 million this year for launching this program at the Fulton State Hospital. He indicated that another possible special session may be called around the first of May to reconsider House Bill No. 9.

"Dr. Ulett mentioned that the Division of Mental

Diseases needed help in this matter and urged doctors to let it be known that a program to care for emotionally disturbed children is needed.

"Dr. Ulett also introduced the subject of Temporary Licensure for foreign physicians to work in State Hospitals. After discussion, it was reported that resolutions concerning this matter may be introduced in the House of Delegates.

(The Speaker referred this portion of the report to the Reference Committee on Medical Education.)

"Mr. McIntyre reviewed a resolution introduced in the 1967 House of Delegates of MSMA regarding state appropriations to the State Board of Healing Arts. Legal Counsel submits the following report regarding this resolution:

" 'The following report is made in regard to Resolution No. 4, introduced by St. Louis Medical Society, approved by the Committee on Miscellaneous Affairs and adopted by the House of Delegates, April, 1967.

" 'The Resolution deplored the fact that the registration and other fees paid by physicians exceeded by 25% to 30% the fund appropriated by the Legislature for the operation of the Board, and provided that the Legislature be petitioned that all revenue of the Board be appropriated to it.

" 'The Council reports that following adoption of the Resolution it was too late in the session of the Legislature in 1967 for any action to be taken; that the Council has been advised that the proportionate cost of state government in regard to the operation of such state agencies, and the departments of the state through which such collections and payments must pass is generally considered to be about 15 per cent to 18 per cent of such funds, and that it is the feeling of the General Assembly that such agencies as the State Board of Healing Arts should pay its own way in this cost of government. The Council was also advised that amounts in excess of this proportionate cost reverting to General Revenue could raise the question of unconstitutionality of the Act as becoming a revenue measure rather than a regulatory measure.

" 'The Council was making arrangements for the Appropriation Chairman to be contacted in this regard at the recent special session, but found that such was not necessary as the appropriation to the Board of Registration for the Healing Arts was sufficiently within the above formula.'

"On motion of Dr. Benoit, duly seconded, the Council approved the report submitted by Legal Counsel.

(The Speaker referred this portion of the report to the Reference Committee on Miscellaneous Affairs.)

"Mr. McIntyre reported on the results of Joint Billing of MMPAC dues with MSMA dues, which complied with the resolution adopted by the House of Delegates in April, 1967. He reported that approximately one-half of the membership did not receive joint billing at the official request of their County Medical Societies. Mr. O'Brien reported that more funds had been collected than ever before and that three-fourths of the money contributed came from members who received joint billing. On motion of Dr. Cope, duly seconded, the Council urges all county societies to adopt joint billing.

"Mr. McIntyre reported that the pending legal case of the Board of Optometry vs. Curteman, an optician, pertaining to the fitting of contact lenses, in which the MSMA has been enjoined, is now awaiting trial. On motion of Dr. Gunn, duly seconded, the Executive Secretary's Report was accepted.

(Referred to the Reference Committee on Reports of Officers.)

"Dr. Benoit reviewed the report of the Medical Economics Contract Committee in the absence of the Chairman, Dr. Wiegand. Dr. Benoit reported that two meetings were held since the last Council meeting in February, one on March 3 in Jefferson City and another meeting of the Representatives of the Specialty Review Committees on March 17 in St. Louis.

"Dr. Benoit reviewed the recommendations of the Committee for Physician Care in Nursing Homes under Medicaid as follows: Class I, Acutely ill patients needing physicians' services, that such services be paid on the basis of usual, customary and reasonable fees for house calls; Class II, Convalescent patients or patients with chronic, that calls be limited to twice monthly and fees be paid on a UCR basis for office visits; Class III, Domiciliary patients requiring no medical supervision or therapy, that such patients not be covered for physician fees.

"After discussion, it was moved that this portion of the report be tabled until the next meeting of the Council. The motion was seconded and carried.

"Dr. Benoit then reviewed several recommendations and suggestions for the functioning of specialty review committees in working with the Division of Welfare. Four items were discussed: (1) If a claim is rejected by the computer, it may be referred to the proper review committee. (2) A form should be sent by the Division of Welfare informing the physician that the case is being referred to a review committee and requesting additional information. (3) The chairman of a particular review committee may call a meeting of his committee after ample cases have been accumulated by the Division of Welfare. (4) After rejection of a fee by the Specialty Review Committee, a physician would have the right to appeal to the MSMA Medical Economics Contract Committee for review and recommendation.

"The Committee also discussed physicians' fees and services in free city- and county-operated out-patient

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clinics under Medicaid. Since a doctor's expenses involved are not as great as those of treating private patients, his fee could be lower for clinic patients. However, in providing services for in-hospital patients in free city- and county-operated hospitals under Medicaid, a doctor's fee would be the same as for his patients in other hospitals under the program.

"This portion of the report was approved.

"Dr. Benoit then reported on the meeting of Specialty Review Committee Chairmen or representatives on March 17, stating that all but three specialties were represented. The group discussed guidelines to be recommended and adopted to assist the Division of Welfare and the Medical Review Committees in their cooperative endeavors:

"Item 1—When a physician's fee for service is above the cut-off figure, the physician should be contacted to provide all documentary information in detail to support his claim. If the information is not forthcoming, the claim would then be disallowed. If, after the explanatory information is received, the fee still appears to be unacceptable to the Director, the problem then becomes one of fee adjudication by the proper Specialty Review Committee.

"Item 2—In regard to overutilization, the Director of the Division of Welfare would (a) request the physician to provide an explanation for the treatment as provided; (b) if such information is not forthcoming, the claim would be disallowed; and (c) if after receiving the information the Director is still unwilling to accept the claim, then the entire matter with all explanatory information would be referred to the Medical Review Committee.

"Other items considered were (a) a Medical Review Committee meeting could be called at the discretion of the Chairman, with no more than one every two months deemed necessary and (b) the Division of Welfare shall reimburse Medical Review Committee members for expenses incurred as a result of their functions.

"On motion, duly seconded, the report of the Representatives of the Specialty Review Committee was approved.

"Dr. Benoit reminded the Council that at the February Council meeting, the Medical Economics Committee had recommended continued endorsement and support of Missouri Medical Service (St. Louis Blue Shield) by MSMA and that Component Medical Societies should seek a greater voice in the activities of Blue Shield.

"It was reported that Dr. Wiegand attended a meeting of the St. Louis Blue Shield Board of Trustees on February 29 and that Blue Shield representatives had expressed their willingness to meet with representatives of MSMA to discuss the selection and representation of the physicians who make up the St. Louis Blue Shield Board of Trustees.

"After discussion, on motion of Dr. Gunn, duly seconded, it was agreed that the Council should appoint a committee to meet with St. Louis Blue Shield representatives to discuss physician representation on the St. Louis Blue Shield Board of Trustees and that members of this committee should be limited to the St. Louis Blue Shield area.

"The Council reviewed the proposed new program, based on the usual, customary and reasonable fee concept which had been submitted by St. Louis Blue Shield to the Medical Economics Committee at its meeting on March 3. It was the recommendation of the Committee that this program be approved by MSMA and developed by the plan.

"On motion of Dr. Benoit, seconded by Dr. Stuart, the Council approved the program as proposed by the St. Louis Blue Shield Plan.

"The following resolution regarding the Blue Shield Plans of Missouri was submitted for Council approval:

> Whereas, Through the American voluntary system, superior medical care is available to the American public;
> Whereas, A means must be developed by which this quality medical care is made universally available to all Americans; and
> Whereas, Blue Shield has the major responsibility of providing prepayment of medical care for the American public; therefore, be it
> *Resolved*, That the Blue Shield plans of Missouri promptly develop, for the people of Missouri, comprehensive care programs for people under 65 years of age; and be it further
> *Resolved*, That these plans offer such a comprehensive program to subscribers by January, 1969.

On motion of Dr. Stuart, duly seconded, the above resolution was approved.

(Referred to the Reference Committee on Resolutions.)

"Dr. Neilson reviewed a report submitted by Dr. C. W. Winn, a member of the Committee on Medical Economics, who attended a meeting of the Second National Congress on the Socio-Economics of Health Care sponsored by the AMA in Chicago on March 22 and 23.

"It was noted that representatives of industry and labor both seemed to accept the usual and customary fee concept, that they did not want government controlled medicine and that they felt the consumer should have a choice of plans for his health care.

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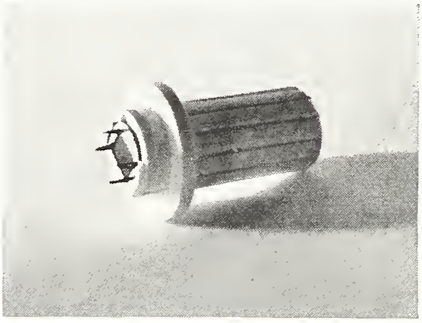

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"It seemed evident that these representatives felt that physicians, industry and labor can and should work together to a greater degree in developing Health Care programs.

"Dr. Neilson complimented the AMA for a good program and for presenting medicine in a good light. On motion of Dr. Stuart, duly seconded, the AMA Delegates drew up the following resolution for presentation to the House of Delegates as part of the Supplemental Report of the Council:

Whereas, The Missouri State Medical Association is deeply concerned with the responsibility of the profession in our state to provide more comprehensive programs of quality medical care, and

Whereas, The American Medical Association is properly a forum for the discussion of all aspects of the practice of medicine including the socio-economic, and

Whereas, The recent Second National Congress on Socio-Economics of Health Care sponsored by the American Medical Association is an outstanding example of what can be accomplished by good planning, and

Whereas, The American Medical Association demonstrated that it is willing and able to be a leader in planning for health care for the people of our country, be it therefore

Resolved, That the American Medical Association be congratulated on their most successful endeavor; and be it further

Resolved, That the American Medical Association be urged to continue its efforts in advising with all representatives of the populace who are endeavoring to provide quality medical care for our citizens; and be it further

Resolved, That the Missouri State Medical Association being deeply concerned is eager to participate in planning of such quality health programs and offers its services toward accomplishing these ends; and be it further

Resolved, That this resolution be adopted by the House of Delegates of Missouri State Medical Association and instruct their AMA Delegates to support this resolution in the House of Delegates of the AMA.

(Referred to the Reference Committee on Resolutions.)

"The meeting was adjourned."

The Speaker announced the reference committees which were charged with considering various subjects within the Council's supplementary report and also noted the reference committee assignments for additional matters in the Delegates Handbook.

Doctor Benoit named the following members of the Committee on Nominations: Drs. Chester Clark (Chairman), Thomas Fischer, Robert Kelley, Melvin Schwartz, Byron Stuart, Gordon Stauffacher, Robert Percy, Kenneth Glover, C. W. Cooper and Charles Chastain.

The Speaker invited the introduction of new business.

Dr. O. Dale Smith offered a resolution from the Jackson County Medical Society.

Whereas, A recent State Supreme Court ruling subjected human blood to the provisions of implied warranty, and

Whereas, The public is duly protected by existing regulations, therefore be it

Resolved, That the MSMA strongly urges the passage of appropriate legislation to remove human blood, blood components, human tissues or organs, for use in transfusion, injection or transplantation, from the implied warranties of merchantability and fitness. Such blood, blood components, tissues or organs shall not for these purposes be considered subject to sale or barter but shall be considered as medical services, and be it further

Resolved, That the officers and Council of the MSMA make every effort to secure the introduction of such legislation at the next session of the Missouri General Assembly, and be it further

Resolved, That the Secretary of the MSMA send a copy of this Resolution to the Honorable Warren E. Hearnes, Governor of the State of Missouri.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Louis P. Hetlage introduced a resolution from the Lincoln-St. Charles County Medical Society concerning Payment for Certified Nurse Anesthetists Under Medicaid.

Whereas, The small bed capacity of rural hospitals precludes the use of full time anesthesiologists, and

Whereas, The services of experienced certified registered nurse anesthetists are usually available to rural hospitals, and

Whereas, The use of only partially trained local physicians for the administration of anesthesia has frequently proved undesirable, and

Whereas, The law under Title XIX now specifically excludes payment to nurse anesthetists, but pays only licensed M.D.'s or D.O.'s for anesthesia service, and

Whereas, The financial condition of the welfare patient seldom permits cash payment for necessary anesthesia service, therefore be it

Resolved, That the Missouri State Medical Association go on record as favoring a change in the present law to permit payment of Certified Registered Nurse Anesthetists for anesthesia services rendered Medicaid Patients under the provision of Title XIX, and that the Legislative Committee be instructed to take whatever action is necessary to prevail upon the legislature to make this change.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Allen F. Klippel introduced a resolution from the St. Louis County Medical Society and St. Louis City Medical Society.

Whereas, The number of deaths that occur annually on the highways of this State are increasing; and,

Whereas, The Federal Highway safety program of 1966 is a step in the direction of improving this unfortunate situation; and,

Whereas, We as physicians must be concerned with any program that will help save lives and injuries; therefore

Be It Resolved, That this convocation of the physicians of this State go on record in favor of implementation of this program, and that the Governor of this State be so informed.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Edward D. Kinsella submitted the following resolution from the 3rd Councilor District.

Whereas, Organized medicine and individual physicians are becoming ever more involved in new plans for community health care, and

Whereas, Local and federal governments, community health institutions and even universities have component groups studying comprehensive health care planning for the community, and,

Whereas, Organized medicine has played only a secondary consulting role in the development of medical programs dependent upon the utilization of physicians, and

Whereas, Organized medicine has had no component groups concerned with the study of comprehensive health care to either develop their own ideas or consult with outside authority, and

Whereas, Organized medicine should play a leading role in Medical Planning, therefore be it

Resolved, That the Missouri State Medical Association and all its component societies establish permanent committees to be concerned with comprehensive health care planning.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Troy Morgan submitted a resolution from the Northwest Missouri Medical Society concerning the Ethics of Elective Abortions.

Whereas, Many physicians privately and publicly discuss the correctness of elective Abortions in a manner that has heretofore been considered unethical and illegal, and

Whereas, Many medical disciplines may participate in decisions concerning therapeutic abortion, and

Whereas, The subject of abortion is frequently in the mind and literature of the lay public, be it

Therefore Resolved, That the MSMA appoint a study committee to report to the next annual meeting of the House of Delegates any changes that they may wish to make in the current ethical policy of MSMA.

This committee use the following guidelines:

1. Physicians will always practice medicine within the law of the land.
2. That Medical Ethics will be established independently from the law and by the physicians.
3. That the Society work to change the law to meet the ethic.
4. That the Ethics be broad enough in scope to avoid forcing the conservative physician into an act he does not deem moral.

That this committee have as broad a base as possible, to include OB-GYN, Psychiatric, Religious, Ethical and Legal members.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. M. D. Bonebrake introduced a resolution from the 8th Councilor District concerning Private Physician's Office as a Center for Health Care.

Whereas, With the attacks on present concepts in medical care delivery, more and more emphasis is being placed on the hospital as being the "Community Health Center," as was recently stated by the President of the American Hospital Association, and

Whereas, The great majority of our population is presently obtaining the best medical care in the world, most of which is centered in the private physician's office, and

Whereas, This pattern is more flexible, more economical and, in the end, gives the highest quality of care in more situations than any other, therefore be it

Resolved, That the Missouri State Medical Association reaffirm the principle that individual health care can and most often does center in the physician's office for the majority of the citizens of the United States, and be it further

Resolved, That any new plans for medical care give this well established pattern first consideration; and be it further

Resolved, That through the Council of the Missouri State Medical Association this principle be transmitted to such groups and agencies as may be surveying, studying and proposing plans for medical care.

(Referred to the Reference Committee on Medical Education and Welfare.)

Dr. Hubert A. Ritter submitted a resolution from the St. Louis Medical Society.

Whereas, The quality of physicians and surgeons in the state of Missouri is controlled completely by the State Board of Registration for the Healing Arts, and

Whereas, This legally constituted board is presently being forced beyond its investigative and regulative powers due to inadequate funding, and

Whereas, The majority of offenses in the illegal practice of medicine and surgery are the result of hospitals and medical schools not adequately investigating the qualifications of the practitioners they hire, now therefore be it

Resolved, That the Missouri State Medical Association go on record favoring strict investigation of all hospital and medical school staffs to assure the citizens of Missouri that all men being presented as licensed physicians and surgeons are entitled to this recognition, and be it further

Resolved, That *if necessary* to maintain the high standards and qualifications of physicians and surgeons in the state of Missouri that appropriate increases in examination and licensing fees be made in order that adequate numbers of investigators may be hired by the Board for the purpose of protecting Missouri citizens by enforcing the Missouri physicians and surgeons laws, and be it further

Resolved, That the Missouri State Medical Association, at its annual convention, convened in Kansas City, Missouri this 31st day of March urges our colleagues who serve on this Board to exercise, to the best of their ability, the power which has made private medical practice strong; namely, that ability of our profession to police itself.

(Referred to the Reference Committee on Medical Education and Welfare.)

Dr. Charles A. Jost submitted a resolution from the 3rd Councilor District.

Whereas, It is an injustice to force the working men and women of America to pay for the medical care of those who are able to pay for themselves, therefore

Be It Resolved, That this House of Delegates approves the revising of the Medicare Act so that it shall apply only to those who are not able to pay, and be it further,

Resolved, That a copy be sent to every member of the Congress of the United States.

Doctor Jost then introduced a second resolution from the 3rd Councilor District.

Whereas, The implementation of Title XIX has put an unnecessary tax burden on the people of Missouri, and

Whereas, Tax money from the people of this state is being used to coerce the State to impose an increasing degree of Federal regulation of the medical care of our people, and

Whereas, This legislation, paradoxically, places more and more of the citizens of this State in the category of indigent at a time of increasing affluence, and

Whereas, Involvement of the Federal government in the case of the indigent in Missouri is fraught with the danger of Federal control of the physicians who care for our indigent sick, and

Whereas, Such control, historically, has brought about a lowering of the standards of medical care, and therefore be it

Resolved, That the 1968 House of Delegates of the Missouri State Medical Association shall request the Congress of the United States to rescind this harmful legislation and to reduce the Federal taxes on the people of Missouri so that the State may levy those taxes needed to care for our indigent sick with our own money and in our own way. This will result in great savings of money which will help to restore confidence in our currency and will free large numbers of Federal bureaucrats for more productive roles in society, and be it further

Resolved, That we shall exert ourselves and urge our members to exert themselves to send to the Congress Senators and Representatives who will work to fulfill the purpose of this resolution.

(The Speaker referred both resolutions to the Reference Committee on Miscellaneous Affairs.)

Dr. Robert W. Maher submitted a resolution from the Greene County Medical Society concerning communications improvement between Local, State and American Medical Associations.

Whereas, Most difficulties and ineffectiveness of organized medicine can be traced to the lack of communications between national, state and local components, and

Whereas, This is resulting in a lack of attractive two-way communications between the individual physician, his local medical society, State Medical Association and the American Medical Association, and

Whereas, This results in a lack of coordinated effort to accomplish improvements in the medical economics and legislative fields of the physicians' interest, therefore be it

Resolved, That the Council members of the Component Medical Societies and the State Association seek better means of communicating with the individual physicians and steps be taken to increase the contacts between the Executive Staff of the Missouri State Medical Association, American Medical Association and the individual members of these organizations; and be it further

Resolved, That a copy of this resolution be forwarded to the American Medical Association.

(Referred to the Reference Committee on Reports of Officers.)

Dr. Stanley S. Peterson introduced a resolution from the 8th Councilor District concerning Comprehensive Health Planning.

Whereas, On November 3, 1966, the Congress of the United States enacted Public Law 89-749, known as comprehensive health planning and public health service amendments of 1966; and

Whereas, The Congress in the Declaration of the purpose of Public Law 89-749, stated: "The Congress declares that the fulfillment of our national purpose depends on promoting and assuring the highest level of health attainable for every person"; and

Whereas, Congress declared through this law that federal financial assistance will be directed to support the marshalling of all health resources, national, state, and local, and

Whereas, Public Law 89-749 provides that in its administration in each state there must be an advisory council, a majority of the membership of which must be consumers of health services, to advise the state agency given the responsibility for health planning, and

Whereas, Public Law 89-749 is health legislation of the greatest magnitude, and the health professions are best suited to assume responsibility for public health management, and

Whereas, Medical matters are best understood by medically trained personnel, and

Whereas, The medical profession has always expressed its willingness and ability to recognize and accept responsibility for health and medical care and health planning, therefore be it

Resolved, That this House of Delegates of the Missouri State Medical Association, in order to assure that the intent of Congress, as expressed in Public Law 89-749, be properly carried out, urges that Gov. Warren E. Hearnes avail himself of the fullest possible extent of the expert knowledge of health professionals in the implementation of comprehensive health planning in Missouri, and be it further

Resolved, That all doctors be urged to be vigilant in their own communities in the area of health planning, and be it further

Resolved, That doctors offer their services in planning—in fact, that they insist on being included in planning in their own communities.

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(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. F. Thomas Mosley introduced a resolution from Greene County Medical Society concerning the MSMA State Officers Conference.

Whereas, The Missouri State Medical Association State Officers Conference, held November 4-5, 1967, was an excellent meeting involving officers of constituent medical societies, and

Whereas, Much information was disseminated, which made for more effective management of our medical association, therefore be it

Resolved, That this meeting be continued and improved; and be it further

Resolved, That all possible efforts be made to encourage attendance by representatives of all local societies, and be it further

Resolved, That all members of the Missouri State Medical Association be invited to attend.

(Referred to the Reference Committee on Reports of Officers.)

There being no additional business, the Speaker declared the first session of the House of Delegates adjourned.

SECOND SESSION

Friday, March 29, 1968

The Second Session of the House was called to order at 4 PM in the Colonial Ballroom with Doctor Max, Speaker, presiding. Doctor McVay, Chairman of the Credentials Committee, reported that a quorum was present.

Dr. C. R. Boles, Chairman of the Reference Committee on Miscellaneous Affairs, was invited to make his report.

MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs met in Room 364 of the Hotel Muehlebach at 5:30 PM on March 28, 1968, with the Chairman and all members present. Meeting adjourned at 8:15 PM.

The report of the Committee on Maternal Health was approved, with the substitution in Section 1 of the recommendations of Maternal Welfare of the word "may" for "would" so that it would now read, "The continuance of the pregnancy may gravely impair the physical health of the mother, or, that the child may be born with a grave permanent physical defect." Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The report of the Committee on Laboratory Medicine and Legislative matters and the reports of the Council referred to the Committee were unanimously approved as published. Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by the Jackson County Medical Society on State Medical Examiner Law was unanimously approved.

Whereas, The Missouri State Medical Association has several times in the past expressed support for a State Medical Examiner's System for the State of Missouri, and

Whereas, Widespread State support has also been expressed for such a System through endorsement by the Missouri Bar Association, the State Highway Patrol, the University of Missouri, and the Coroners of two of the largest counties in the State, St. Louis County and Jackson County, and

Whereas, House Bill 440 in the Seventy-fourth General Assembly was the first State Medical Examiner Bill ever to come out of Committee and overwhelmingly pass the House, thus showing the widespread Legislative support of such a System, therefore be it

Resolved, That the Missouri State Medical Association call on its individual members to support such a Bill through personal contact with their State Representatives and Senators, and that the Missouri State Medical Association formally notify the Governor of the State, the Speaker of the House of Representatives and the President of the State Senate of the reaffirmation of the Association's position on such a System for the State of Missouri.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by the St. Louis Medical Society concerning "Comprehensive Health Planning," was unanimously approved by the Committee as amended.

Whereas, It is recognized that Health Planning for the future is worthy of consideration by the Missouri State Medical Association, and

Whereas, It is recognized that Health Planning should be performed by experts knowledgeable in the field of health care, and

Whereas, It is recognized that such experts are already in the fields of public health and the practice of medicine, and

Whereas, The Planning Program submitted by the Director of Comprehensive Health Planning for the State of Missouri was drawn up without the approval or prior knowledge of the Comprehensive Health Planning Council of the State of Missouri, and

Whereas, Public Law 89-749 allows that 49% of the members of the Advisory Council be composed of professional people in health care, and

Whereas, The Comprehensive Health Planning Council as selected by the Governor of Missouri totals 27 people but includes very few in the field of Public Health and none in the private practice of medicine, therefore be it

Resolved, That the House of Delegates of the MSMA go on record by declaring the presently conceived program of Comprehensive Health Planning to be considered unacceptable, and be it further

Resolved, That a copy of this resolution be sent to the Governor of the State of Missouri with a suggestion that the membership of the Planning Council be changed to include a reasonable number of practicing physicians.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The Resolution introduced by Greene County Medical Society regarding "Comprehensive Health Planning" was unanimously approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by the Jackson County Medical Society pertaining to removal of blood components, human tissues or organs for use in transfusion, injection or transplantation, from the implied warranties of merchantability and fitness, was unanimously approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by the St. Louis County Medical Society pertaining to the Federal Highway safety program was unanimously approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution of the Butler-Wayne-Ripley County Medical Society concerning "Contraception" was unanimously approved.

WHEREAS, Many segments of the population, including welfare recipients are highly in need of and are devoid of understanding in the use of birth control information, therefore be it

Resolved, That an effort be made by the organized medical profession to endorse the ready availability and use of

1) Contraceptives and contraceptive devices.
2) Sterilization.
3) Abortion as outlined by the AMA Committee on Human Reproduction.

For information:

Based on a report by the Committee on Human Reproduction, the June, 1967 AMA House of Delegates adopted a statement opposing induced abortions except when:

1) There is documented medical evidence that continuance of the pregnancy may threaten the health or life of the mother, or
2) There is documented medical evidence that the infant may be born with incapacitating physical deformity or mental deficiency, or
3) There is documented medical evidence that continuance of a pregnancy, resulting from legally established statutory or forcible rape or incest may constitute a threat to the mental or physical health of the patient;
4) Two other physicians chosen because of their recognized professional competence have examined the patient and have concurred in writing; and
5) The procedure is performed in a hospital accredited by the Joint Commission on Accreditation of Hospitals.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by Northwest Missouri Medical Society concerning The Ethics of Elective Abortions was unanimously recommended by the Committee for disapproval, inasmuch as it was felt that the report of the Maternal Health Committee and the resolution by the Butler-Wayne-Ripley County Medical Society on Contraception would imply consideration of the principles outlined in this resolution.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The resolution introduced by Doctor Jost pertaining to the revision of the Medicare Act, after considered deliberation, was disapproved by the Committee by a four to one vote.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and, after a brief discussion, was approved by a vote of 69 to 53.)

The resolution introduced by Doctor Jost pertaining to rescinding the implementation of Title 19 (Medicaid) was disapproved by a four to one vote.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded. After discussion, the motion carried.)

The resolution introduced by Lincoln-St. Charles County Medical Society in regard to payment for Certified Nurse Anesthetists under Medicaid was unanimously approved. Mr. Speaker, I recommend the adoption of this portion of the report.

(The motion was seconded and approved.)

The resolution introduced by Dr. Kinsella concerning the Missouri State Medical Association and all its component societies establishing permanent committees to be concerned with comprehensive health care planning was unanimously approved. I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed. The motion to adopt the report as a whole was seconded and passed.)

The Speaker invited Dr. Richard V. Bradley to give the report of the Reference Committee on Constitution and By-Laws.

CONSTITUTION AND BY-LAWS

The Reference Committee on Constitution and By-Laws met in Room 365, Hotel Muehlebach on Thursday, March 28, 1968 at 6 PM.

The Committee discussed the resolution submitted by the St. Louis County Medical Society recommending that Chapter III, Section 2, Line 4 and Line 7 of the MSMA By-Laws be amended so that the word "members" in each of these lines be changed to "memberships."

The Committee unanimously voted that the abovementioned By-Laws not be changed at this time.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee then discussed the feasibility of setting up specialty sections in MSMA and voted unanimously against establishing specialty sections at the present time.

Mr. Speaker, I move that this portion of the report be adopted.

(The motion to adopt was seconded and passed.)

Doctor Bradley moved the adoption of the report as a whole.

(The motion to adopt was seconded and carried.)

The Speaker invited Dr. Avery Rowlette to give the report of the Reference Committee on Resolutions.

RESOLUTIONS

The meeting of the Reference Committee on Resolutions was held at 6:30 PM on March 28, 1968 in Room 362 in the Muehlebach Hotel with all members present.

The minutes of the Council meetings were approved as published except that section of the supplemental report of the Council report of the meeting of March 27, 1968, dealing with the recommendations of the Medical Economics Contract Committee relating to physician's services rendered in nursing homes under Medicaid. It is the feeling that hard and fast rules as outlined were inadvisable, and the Committee recommends that this problem be referred for study by a special nursing home sub-committee already set up by the Medical Economics Contract Committee and recommendations to the Council be made after review by the Medical Economics Contract Committee.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and carried without discussion.)

Resolution #2, as introduced by the St. Louis Medical Society relating to group practice was approved after deletion of Paragraph 5 and would read as follows:

WHEREAS, The United States Department of Health, Education and Welfare in its report at the National Conference on Group Practice held October 19-21, 1967 states that its goal is the promotion of group practice as the optimum method to provide high quality medical care for our nation's population, and

Whereas, There is no opposition to group practice in general, and

Whereas, The use of federal funds is being provided to help form these groups, and no provisions made for continuation of solo practice, and

Whereas, This report, known as Public Health Service Publication Number 1750, implies and suggests that federal compulsory and coercive planning be used on physicians, hospitals and insurance companies including Blue Cross and Blue Shield, and

Resolved, That the MSMA House of Delegates go on record as opposing any federal compulsory and coercive promotion of group and hospital practice of medicine, and be it further

Resolved, That this resolution be presented to the House of Delegates of the AMA by the Missouri Delegates to the AMA and to the members of the State Legislature and Senate and to the United States Congressmen and Senators from Missouri.

Mr. Speaker, I move the adoption of this portion of the report.

(The move to adopt was seconded and passed.)

Resolution #5, introduced by the Butler-Wayne-Ripley County Medical Society was approved as revised to read as follows:

Whereas, New developments are constantly occurring in medical practice, causing the outmoding of old drugs and materials, and causing the use of new drugs and materials to be mandatory for good medical practice and patient safety, and

Whereas, The current Blue Cross Contract does not cover payment for Tetanus Immune Globulin, on the basis that it is a derivative of human blood, and

Whereas, Tetanus Immune Globulin is a medication often required in good medical practice, be it

Resolved, That Blue Cross be asked by the Missouri State Medical Association to include Human Tetanus Immune Globulin in their drugs approved for payment.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed. The motion to adopt the report as a whole was seconded and passed.)

Dr. Donald Shull was invited to give the report of the Reference Committee on Medical Education and Public Welfare.

MEDICAL EDUCATION AND PUBLIC WELFARE

The Committee on Medical Education and Public Welfare met in Room 4 of the Muehlebach Hotel in Kansas City at 6:30 pm, March 28, 1968. All members were present. It was recommended that the published reports of the following committees be adopted:

1. Scientific and Postgraduate Work.
2. Infant and Child Care.
3. Control of Venereal Disease.
4. Eye Health.
5. Diabetes Mellitus.
6. Aging.
7. Alcoholism (Special).
8. Nursing and Paramedical Personnel (Special).
9. Rural Medical Service (Special).

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended that the final paragraph of the Report of the Committee on Mental Health be deleted, this paragraph consisting of:

"The Committee recommends further favorable consideration on the proposal that foreign physicians practicing in State Hospitals, and holding temporary licenses, be allowed to take the Missouri State Board Examination when otherwise qualified and not be required to wait until the end of five years when they become a U. S. citizen. If such were permitted, however, these physicians would not receive their regular licenses until they became citizens."

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

Action was taken on the Report of the Council Meeting, Page 51, second paragraph, which was approved in its entirety.

Action was taken on the Report of Council Meeting, Page 71, first paragraph, which was approved in its entirety.

Action was taken on the Report of Council Meeting, Pages 76 and 77, which were approved with the recommendation for deletion of the following:

"The Committee recommended that foreign physicians who hold temporary licenses be allowed to take the Missouri State Board examination when otherwise qualified and not be required to wait until the end of the five years when they become a U. S. citizen. It was pointed out that a similar recommendation already has been approved by the Council and MSMA House of Delegates."

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

Action was taken on the report of the Council Meeting, Page 78, which was approved in its entirety.

Action was taken on the Report of Council Meeting, Page 82, which was approved in its entirety.

Action was taken on the Report of Council Meeting, Pages 86 and 87, which was approved in its entirety.

The Supplemental Report of the Council on Alcoholism presented by Dr. Kendis, was approved in its entirety.

The report of Dr. Ulett on Division of Mental Diseases and Temporary Licensure Bill, both of which were informative only, were approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended approval of Resolution #4, introduced by the St. Louis Medical Society, concerning Environmental Health.

Whereas, Man through modern science and technology has developed vast capabilities to alter his environment and affect the ecological balances necessary for life in the State of Missouri, in the United States and indeed on this planet and

Whereas, Man does not fully understand the effect and end result of his uses of biographical and chemical agents upon his environment and just recently is beginning to realize how pollution of the air and the water and the soil will in time, unless checked, cause life to become difficult and indeed perhaps impossible by affecting the health of our people, therefore be it

Resolved, That the Missouri State Medical Association

1) Express its concern regarding the long-range health consequences of the use of biological and chemical agents which modify the environment, and the effect air, water and soil pollution may have on the health of our citizens and

2) Establish a committee to study these problems in Missouri and cooperate with the already existing agencies working in this field, including the AMA's Committee on Environmental Health and report periodically to the Council of MSMA and

3) Volunteers its cooperation with public agencies of the State of Missouri and of the U. S. Government for the task of studying the medical effects of major programs and activities which modify environment and affect the ecological balances of nature and the health of mankind.

4) Order copies of this resolution sent to the Governor of the State of Missouri, all members of the Legislature, the Missouri State Department of Health, and the Missouri State Department of Conservation and all other agencies working in these fields.

Mr. Speaker, I move the adoption of this portion of the report.)

(The motion was seconded and passed.)

The resolution of the Butler-Wayne-Ripley Medical Society was approved as modified:

Whereas, That tobacco smoke is a major contaminant of indoor air and a cause of preventable disease, therefore be it

Resolved, That all medical societies and their members support the efforts of the Department of Environmental Health of the American Medical Association and others in their efforts to clean up the environment by discouraging smoking in all medical society meetings and placing a ban on the sale of cigarettes in hospitals, further that smoking be limited to appropriate areas in public buildings and conveyances.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended that Resolution #7, introduced by the Butler-Wayne-Ripley County Medical Society be referred to the Committee on Trauma.

Whereas, Automobile accidents are the second greatest cause of avoidable death and injury, and

Whereas, Lack of comprehension of the principles of smooth traffic flow and complete lack of knowledge of correct emergency procedures is demonstrated constantly, therefore be it

Resolved, That a thorough comprehensive examination on the courtesies of the road, traffic movement principles and emergency procedures be required before licensing of all drivers.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended that Resolution #9, introduced by the Butler-Wayne-Ripley County Medical Society, concerning Radiation Hazards be referred to the Committee on Radiology and Ionizing Radiation.

Whereas, Recovery and super-recovery from radiation exposure has been reported by the Air Forces Radiation Research Institute on post-radiation kinetics, therefore be it

Resolved, That reduction in expenditures devoted to the so called "radiation hazard" be recommended.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Greene County Medical Society resolution on Private Physician's Office as a Center for Health Care was approved in its entirety.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended approval of the St. Louis Medical Society resolution for investigation of all hospital and medical school staffs to assure the citizens of Missouri that all men being presented as licensed physicians and surgeons are entitled to this recognition.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

Mr. Speaker, I move the adoption of the report as a whole.

(The motion was seconded and passed.)

The Speaker invited Dr. Kenneth Hollweg to give the report from the Reference Committee on Reports of Officers.

REPORTS OF OFFICERS

The Reference Committee on Reports of Officers met in Room 363 of the Muehlebach Hotel, on March 28 at 6 PM. All members were present and included Dr. Kenneth C. Hollweg, Chairman, and Drs. Ned B. Chase, Jr., Miles C. Whitener, Edward M. Cannon, and W. D. Bradshaw.

The addresses of the retiring President Hector W. Benoit, Jr., M.D.; President-Elect David N. Kerr, M.D.; President of the Woman's Auxiliary, Mrs. John Williams; and President of the Missouri State Medical Assistants Society, Mrs. Marguerite Hubbard, were all approved. The report of the Secretary, the Treasurer, referred reports of the Council and the report of the Executive Secretary were all approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Committee recommended approval of the Greene County Medical Society Resolution relative to "Good Meeting of Constituent Medical Society Officers":

Whereas, The Missouri State Medical Association State Officers Conference, held November 4-5, 1967, was an excellent meeting involving officers of constituent medical societies; and

Whereas, Much information was disseminated, which made for more effective management of our medical association; therefore be it

Resolved, That this meeting be continued and approved; and be it further

Resolved, That all possible efforts be made to encourage attendance by representatives of all local societies; and be it further

Resolved, That all members of the Missouri State Medical Association be invited to attend.

Mr. Speaker, I urge the adoption of this portion of the report.

(The motion was seconded and passed.)

The Greene County Medical Society Resolution was discussed relative to "Communications Improvement between Local, State, and American Medical Association" and is as follows:

Whereas, Most difficulties and ineffectiveness of organized medicine can be traced to the lack of communications between national, state and local components, and

Whereas, This is resulting in a lack of effective two-way communications between the individual physician, his local medical society, state medical association, and the American Medical Association, and

Whereas, This results in a lack of coordinated efforts to accomplish improvements in medical economics and legislative fields of the physician's interest; therefore be it

Resolved, That Council members of component medical societies and the state association seek better means of communicating with individual physicians and steps be taken to increase the contracts between the Executive Staff of the Missouri State Medical Association, American Medical Association, and the individual members of these organizations; and be it further

Resolved, That a copy of this resolution be forwarded to the American Medical Association.

Mr. Speaker, I move that this resolution be not approved.

(The motion was seconded and passed.)

The Supplemental Report of the Council, which contained specific problems relegated to this Committee and, in particular, the appointed Ad Hoc Committee to investigate medical care costs, were all approved with the recommendation that a supplemental report from the Ad Hoc Committee, which is to meet Saturday, March 30, be presented to the final session of the House of Delegates.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

The Missouri State Medical Foundation financing as reported by the Council, is as follows:

Resolved, That an annual assessment of ten dollars ($10) be added to the dues of each active Missouri State Medical Association member and five dollars ($5) to the dues of each junior member for the three-year period 1969, 1970, 1971, for the support of the Missouri State Medical Foundation.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion to adopt was seconded and passed.)

Mr. Speaker, I move the adoption of this report as a whole, after which I will make another motion.

(The motion to adopt was seconded and passed.)

In order to activate the action the House has taken regarding the assessment, I submit a change in the By-Laws which must lay on the table for one day. It reads as follows: Amend Chapter VIII, Section 1, Subsection B, by striking out all of said Subsection B and inserting in lieu thereof the following: An assessment of ten dollars ($10) per year on each active member of the Association and five dollars ($5) on each junior member shall be applicable for a three-year period beginning in 1969. The assessment shall be payable with the dues of the Association and the monies collected therefrom shall be submitted to the Missouri State Medical Foundation.

Mr. Speaker, I move that this change in By-Laws which the Committee has submitted be tabled until the House of Delegates meets again on Sunday morning.

(The motion was seconded and approved without discussion.)

At this time, President Benoit read the following letter which was addressed to him as President of the MSMA and which was accompanied by a check for $500 for the Missouri State Medical Foundation:

"In accordance with the proclamation signed by Governor Hearnes designating March 30, 1968, as Doctors' Day, the Katz Drug Company wants to honor the many physicians in our area. We are enclosing a check for the Missouri State Medical Association as a contribution to the Students' Loan Fund. We are pleased to have this opportunity to honor the doctors. With personal regards, Yours truly, Robert Rogers, Vice President and Director of Personnel."

The Speaker asked Doctor Benoit or Doctor Kerr to write an appropriate letter of appreciation.

Dr. Troy O. Morgan was invited to give the report of the Reference Committee on Necrology.

NECROLOGY

The Reference Committee on Necrology met in Room 3 of the Muehlebach Hotel, Thursday, March 28, 1968, with four members of the Committee present and with the assistance of Mrs. Bertha Thomas of the MSMA staff.

The Committee submits the following Resolution:

Whereas, There have been 71 deaths among our members since the 1967 Annual Session, and

Whereas, Each of these members is missed as an individual as well as for his contributions to the practice of mdicine and to the Missouri State Medical Association, and

Whereas, The loss of each member is keenly felt by all members, his loved ones and close associates and, we are confident, the patients he has served with dedication, and

Whereas, Condolences in the form of The Memoriam Perpetuam has been sent to the immediate family of each deceased member, therefore, be it

Resolved, That the same expression of sympathy continue to be sent to each immediate family, and be it further

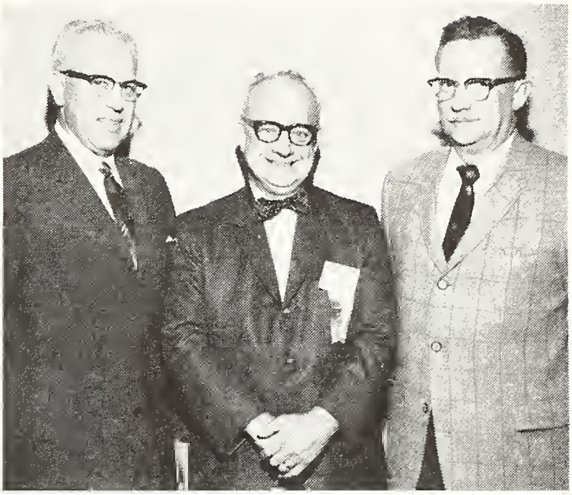
Resolved, That the House of Delegates now pay personal tribute by standing for a moment of silence in memory of each of the 71 members we have lost and whose names will be recorded in the minutes of this Annual Session.

Mr. Speaker, I move the adoption of this report.

(The motion to adopt the resolution was seconded and the Speaker asked the House of Delegates to stand for a moment of silence in indication of approval of the motion.)

Members Deceased Since the 1967 Session

Leslie, James F., M.D., Springfield
Scarpellino, Louis, M.D., Kansas City
Wilson, Stanley G., Jr., M.D., St. Louis
Chastain, Maurice W., M.D., Kansas City
Meyerhardt, Milton H., M.D., St. Louis
Foster, Howard M., M.D., St. Louis
Griot, Albert J., M.D., St. Louis
Heinbecker, Peter, M.D., St. Louis
Muench, Ludwig O., M.D., Washington
Modlin, John J., M.D., Columbia
Raemdonck, Alphonse, Jr., M.D., St. Louis
Schmitz, Edgar F., M.D., St. Louis
Wall, Albert, M.D., Cape Coral, Florida
Vezeau, Stephen, M.D., St. Louis
Ford, Walter W., M.D., Gordonville
Yates, J. Lewis, M.D., Mt. Vernon
Morrison, George B., M.D., Nevada
Swafford, Owen J., M.D., Senath
Hunt, William J., M.D., St. Joseph
Eskeles, Irwin H., M.D., Florissant
Aull, John, M.D., Kansas City
Klym, Nicholas, M.D., St. Louis
Stephens, Louis F., M.D., St. Louis
Davis, Irl R., M.D., St. Louis
Warner, George K., M.D., St. Louis
Weitman, Maximiliam, M.D., St. Louis
Wennerman, Sam F., M.D., St. Louis
Cramb, Arthur B., M.D., Lakeland, Florida
Miller, Howard S., M.D., Macon
Gzell, Ronald, M.D., St. Louis
Bernstorff, Paul H., M.D., St. Louis
Tadlock, Baxter W., M.D., St. Joseph
Coleman, William G., M.D., St. Louis
McDonald, George, M.D., St. Louis
Hope, James L., M.D., Lebanon
Cummings, James H., M.D., St. Louis
Brookes, Henry S., Jr., M.D., St. Louis
Spelman, Archibald E., M.D., Smithville
Love, Walter S., M.D., Nevada
Hunt, Claude J., M.D., Kansas City
Austin, Martin G., M.D., St. Louis



(*Left to right*) Dr. Joseph L. Fisher, who was elected Chairman of the Council, enjoys a few "off duty" minutes between meetings with Dr. Gerald L. Miller, who was elected Vice-Chairman of the Council, and Dr. James C. Cope, who was re-elected Councilor from the 5th District.

May, Benjamin, M.D., St. Louis
McKee, Joseph W., M.D., Kansas City
Richtarsic, S. R., M.D., St. Louis
Trippe, Harrison C., M.D., Kansas City
Shaw, Carvel T., M.D., Hermann
Brewer, Lake, M.D., Ridgeway
Kanagawa, Hajime H., M.D., Jefferson City
McCunniff, William B., M.D., Kansas City
Leslie, James T., M.D., Louisville, Kentucky
Cowan, R. D., M.D., Aurora
Lemmon, George B., M.D., Springfield
Horst, Otto C., M.D., Springfield
Kimes, Ira David, M.D., Cameron
Ferguson, James T., M.D., Kansas City
Alsup, Frederick F., M.D., Belen, New Mexico
Smith, Milton, M.D., St. Louis
Williams, Vincent T., M.D., Kansas City
Prentiss, Harry S., M.D., Kansas City
Broyles, Glen H., M.D., Kansas City
Aldrich, James T., M.D., St. Louis
Chapman, J. R., M.D., Steele
Riley, William H., M.D., St. Louis
Sheets, John S., M.D., St. Louis
Higgins, John W., M.D., St. Louis
Bachmann, Paul L., M.D., Independence
Townsend, James A., M.D., St. Louis
Loving, B. Rush, M.D., Ballwin
Elliott, James R., M.D., Pasadena, Calif.
James O. Peeler, M.D., St. Louis
William Riley Gum, M.D., St. Louis

The Speaker invited introduction of new business. Dr. Louis Hetlage introduced a resolution concerning The Training of Osteopathic Graduates as interns and residents in Medical Hospitals:

Whereas, The disproportion between the number of residencies and internships and available graduates has been a continuing problem in the State of Missouri, and

Whereas, This condition leads to many unfilled house staff positions or the filling of these positions by foreign graduates under temporary licensure, and

Whereas, At times these foreign graduates have been found to have sub-standard backgrounds of medical education, and

Whereas, Under the present state licensure law graduates of schools of osteopathy and medicine are required to pass a common State Board examination prior to licensure, and

Whereas, Facilities for postgraduate training of osteopathic graduates are severely limited, and

Whereas, in the past it has been the practice of medical hospitals in Missouri to reject osteopathic graduates for internship and residency training, even at the expense of leaving unfilled the necessary house staff positions, and

Whereas, The utilization of osteopathic graduates in medical hospitals would not only greatly benefit the quality of osteopathic care rendered to patients in Missouri, but would aid the physicians in medical hospitals by making licensed physicians available for hospital work where these positions are currently vacant or filled by temporary licensed foreign graduates.

Therefore, Be It Resolved that the Missouri State Medical Association House of Delegates go on record as favoring the use of osteopathic graduates as interns and residents in medical hospitals, and be it further

Resolved, That these practices be considered ethical and proper under the recent more liberal policies set down by the Missouri State Medical Association and the American Medical Association, and be it further

Resolved, That the Committee on Medical Education and Hospitals or some other committee study this problem in depth and make its recommendations to the Council as well as to the House of Delegates at its meeting in 1969.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

Dr. Dale Smith introduced the following resolution:

Whereas, There is a continued need for more health manpower, including physicians, educators and paramedical personnel at all levels in our society, and

Whereas, The acute shortage of health manpower is particularly manifest in the State of Missouri, and

Whereas, The most efficient mechanism for providing relief for this manpower shortage is through the utilization of a highly complex medical educational facility, and

Whereas, The citizens of our state should look to the MSMA for direction in resolution of these problems, and

Whereas, Kansas City, Missouri, has the facilities for the development of a complete educational medical center, therefore, be it

Resolved, That MSMA be on record as approving and urging the prompt development of a complete educational medical center, including a medical school at Kansas City, Missouri, and further

Resolved, That MSMA, its officers and Council use all of its facilities and influence to implement the development of such a center with expedience, and further

Resolved, That a copy of this Resolution be distributed to the Governor of Missouri, the Curators of the University of Missouri, the Lay Board of the Kansas City General Hospital, and the Legislators of the State.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

Dr. B. J. Bass introduced a resolution from the 9th Councilor District.

Whereas, New federal and state programs in the field of "total health care" presently cost many public dollars and will cost more, and

Whereas, The public is vitally concerned about these huge expenditures of its monies, and

Whereas, The physician feels this is a most legitimate public concern, and

Whereas, News media and politicians are prone to present total health care costs to the public as "medical care costs," and

Whereas, The public often equates these "medical care costs" with physician's fees, and

Whereas, This misunderstanding could cause acts, rulings and laws which are detrimental to the public interest as well as to the physician, and

Whereas, An honest, fair, and impartial breakdown of these huge expenditures is much needed for the public education and for correct factual information for the members of the Legislature and the Congress, now, therefore, be it

Resolved, That this House of Delegates and MSMA instruct its staff to prepare each year at an appropriate time the following:

(1) A breakdown of expenditures under Title XVIII (Medicare) both Part A and Part B as they relate to the State of Missouri.

(2) A breakdown of Title XIX (Medicaid) expenditures for the State of Missouri.

Be It Further Resolved, That the staff of MSMA prepare this information from appropriate public records with source notations and not just from bureau publications; be it further

Resolved, That this information be distributed each year to each member of MSMA, and that the Council of MSMA, together with the component medical societies, shall cause these facts to be publicized at appropriate times and places through various state publications, the press, and on radio and TV, so that each citizen of this state may have precise knowledge about the manner in which his health care dollar is being spent. Finally, be it

Resolved, That the Council of the AMA and the AMA House of Delegates be made aware of this action of the MSMA House of Delegates and that they be requested to consider similar action and public information programs at the national level.

(Referred to the Reference Committee on Resolutions.)

Dr. Harry Statland introduced a resolution from the 7th Councilor District.

Whereas, Thorough discussion of problems brought to this House of Delegates through its reference committees is necessary for careful studied rcommendations, and

Whereas, Some reference committees have few or no problems presented to them, while others are burdened with so many weighty and important matters that they cannot possibly do justice to all of them, therefore be it

Resolved, That the Council study the possibility of subdividing some of the present reference committees, to more equitably distribute the work load for the purpose of allowing thorough and unhurried airing of viewpoints and deeper study of all questions.

(Referred to the Reference Committee on Constitution and By-Laws.)

Dr. George Hawkins introduced a resolution concerning the need for increasing the number of qualified physicians in the State of Missouri.

Whereas, There is ample evidence of a shortage of medical practitioners, as evidenced by the nonexistence of practicing physicians in many areas of Missouri which both population and economy could support and urgently need physician coverage, and

As evidenced by the long hours of labor expended by practicing physicians who work long hours not by choice but because of necessity and obligation to their patients,

As evidenced by the lack of native graduates to fill hospital training programs in numerous hospitals throughout the state, and

Whereas, No group in society appreciates this fact more than the overtaxed practitioner of medicine, and

Whereas, The medical profession, in itself is quite willing and eager to supply the teaching and instructional talent to train these practitioners of medicine, but is powerless to donate those talents without the financing of the physical facilities necessary and the financial backing for the basic faculty, and

Whereas, There are still available well-qualified candidates for medical education whose desires and ambitions are frustrated by lack of facilities to permit their training, therefore be it

Resolved, That this House of Delegates go on record, that it favors and urges the Missouri Legislature to supply those necessary facilities to the citizenry of the State of Missouri to allow for an increase in the number of medical graduates in the State of Missouri, and

That a copy of this resolution be sent to the Governor and each State Representative and Senator and

That adequate publicity be given to the communication media: the press, the radio and television of the stand that physicians have taken on this important problem.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

Doctor Hawkins then introduced a resolution concerning the Blue Shield Plan of St. Louis.

Whereas, Sponsorship of Blue Shield Plan of St. Louis by the Missouri State Medical Association allows physicians not directly involved in its operation to assume a policy making role, and

Whereas, Advertised as the "Doctors' Plan," actually physicians on the board of the plan are appointed without democratic participation of the component societies in the selection of board members, and

Whereas, Blue Shield Plan of St. Louis and its hospital counterpart Blue Cross, the pioneers in health insurance during the depression days, have failed to try new innovations to meet the problems of present day medical practice, to-wit, to decrease rather than increase the hospital orientation of medical practice, therefore be it

Resolved, That Missouri State Medical Association abandon sponsorship of Blue Shield Plan of St. Louis and recommend its transfer of sponsorship by the component medical societies in its sphere of operation, and be it further

Resolved, That Blue Shield Plan of St. Louis have its physician membership on its governing boards be chosen in a representative democratic manner by election of such members from the component medical societies.

(Referred to the Reference Committee on Resolutions.)

Doctor Hawkins introduced the following resolution:

Whereas, Costs of total medical care are rising, as are costs of other goods and services in our economy, and

Whereas, Physicians, justly or unjustly are given the onus of being responsible for this increase in costs, and

Whereas, Present health insurance practices because of restrictions that payments for services are rendered for in-patient services and not for out-patient services producing overutilization of hospital facilities and an increase of the total cost of medical care, and

Whereas, Present health insurance trends, both commercial, non-profit and governmental, have overtaxed hospital facilities, so that additional beds must be built at costs of approximately $30,000 per room, and

Whereas, Various reputable insurance companies are expressing interest in exploring means of reducing the cost of medical care, and

Whereas, Physicians, because of their knowledge of the entire gamut of medical care, are more qualified than any other segment in society, to investigate and give guidance to policies which would ameliorate the price spiral in medical care, therefore be it

Resolved, That the Missouri State Medical Association appoint an investigative body to explore the effect of health insurance on the trends in medical practice, its impact on escalating medical costs and to investigate new methods of health insurance conducive to the return of medical practice to the physician's office preventing unnecessary hospital utilization and to recommend at the next meeting of the MSMA what positive steps the physicians of Missouri should take to accomplish their ends.

(Referred to the Reference Committee on Resolutions.)

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Dr. Joseph Edwards introduced a resolution concerning the Missouri State Medical Foundation.

Whereas, The Missouri Medical Foundation administers the fund established by the Missouri State Medical Association, and

Whereas, This fund, among other possible uses, has as its primary purpose, the encouragement of properly qualified students to pursue their training in medical schools who would not otherwise be able to do so financially, and

Whereas, The MSMA at its meeting March 29, 1968, passed a resolution to increase the assessment of its members to $10.00 for the Missouri Medical Foundation for the years 1969, 1970 and 1971, and therefore be it

Resolved, That the MSMA encourage the Trustees of the Missouri Medical Foundation to investigate the desirability of soliciting contributions from the public, business, industry and foundations. This will publicize the fact that there is a student loan fund supported by the MSMA, and not from federal funds.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

The Speaker announced that Dr. James Whittico, a member of the MSMA, had been elected President-Elect of the National Medical Association.

There being no further business, the Speaker adjourned the Second Session of the House.

THIRD SESSION
Sunday, March 31, 1968

The Third Session of the MSMA 110th House of Delegates was called to order by the Vice-Speaker, Dr. E. D. Imes, at 7:30 am in the Colonial Ballroom following a breakfast. Doctor McVay reported the presence of a quorum. With unanimous consent, the Vice-Speaker dispensed with a roll call and reading of the minutes of the two previous sessions.

Dr. Chester L. Clark, Chairman of the Nominating Committee, was invited to present the report of his committee.

NOMINATING COMMITTEE

The Nominating Committee met on Saturday at 10:30 am in Room 4 of the Muehlebach Hotel and submitted the following slate of nominees for approval of the Society.

Vice-President—Dr. Arthur W. Neilson, St. Louis
Vice-President—Dr. Charles O. Osborne, Sedalia
Vice-President—Dr. Erroll W. Allen, Carrollton
AMA Delegate—Dr. Stanley S. Peterson, Springfield
Alternate AMA Delegate—Dr. James C. Sisk, Clayton
AMA Delegate—J. Loren Washburn, Versailles
Alternate AMA Delegate—Thompson E. Potter, St. Joseph
Speaker of the House, Dr. Paul F. Max, St. Louis
Vice-Speaker of the House—Dr. E. D. Imes, Maryville

Mr. Speaker, I move the adoption of this report.

The Vice-Speaker invited additional nominations from the floor. Hearing none, he entertained a motion that nominations cease and that a unanimous ballot be cast for the slate as presented by the Nominating Committee. The motion was seconded and carried.

At this time, the Vice-Speaker relinquished the Chair to Doctor Max, the Speaker of the House.

The Speaker invited nominations for the office of President-Elect. Dr. Kenneth Glover nominated Dr. Doyle C. McCraw of Bolivar. The nomination was seconded by Dr. Byron W. Stuart. There were no additional nominations and the Speaker asked for a vote on Doctor McCraw. The vote was unanimous and Doctor McCraw was declared elected. He was escorted to the Speaker's stand and made a brief acceptance statement.

Dr. John I. Matthews, Secretary, announced that the following Councilors had been elected for two year terms:

Dr. Joseph L. Fisher, First District
Dr. Walter T. Gunn, Third District
Dr. James C. Cope, Fifth District
Dr. Gerald L. Miller, Seventh District
Dr. Howard J. McAlhany, Eighth District (one year term to replace Dr. McCraw)
Dr. E. A. Stricker, Ninth District

The Speaker called for final reports of the Reference Committees. The Committee on Reports of Officers had nothing further. The Committee on Miscellaneous Affairs had nothing to report.

The Speaker asked Dr. Melvin C. Kasten to present the final report of the Reference Committee on Constitution and By-Laws.

CONSTITUTION AND BY-LAWS

The Reference Committee on Constitution and By-Laws met in Room 363 of the Hotel Muehlebach on Friday, March 29, 1968, at 5:30 pm, all members being present.

The Committee discussed the resolution presented by Jackson County Medical Society which recommended a study of the possibility of the subdivision of the present Reference Committee to effect a more equitable distribution of work load.

The Committee calls attention to Chapter III, Section 4, Line 13:

"The Speaker may appoint such other Reference Committees as he may deem necessary, upon approval of the House of Delegates."

The Committee approved the resolution.

Mr. Speaker, I move the adoption of this resolution and report.

(The motion to adopt was seconded and passed.)

The Speaker invited Dr. Avery Rowlette to present the final report of the Committee on Resolutions.

RESOLUTIONS

The Reference Committee on Resolutions met in Room 362 on March 29, 1968 at 5:40 pm with all members present.

The Committee approved the resolution introduced by Dr. B. J. Bass in the Second Session with two exceptions. The Committee recommended that the statement, "this information be distributed each year to each member of MSMA," be changed to read "this information to be published each year in the MSMA journal," thus reducing the expense. The Committee also recommended the statement, "the Council of MSMA, together with the component medical societies, shall cause these facts to be publicized at appropriate times and places . . . " be changed to read "the Council of MSMA, at their discretion, shall cause these facts to be published. . . ."

(The motion to adopt was seconded and passed.)

The resolution introducted by Dr. George Hawkins during the Second Session concerning Missouri Medical Service (St. Louis Blue Shield) was revised and approved to read as follows:

Resolved, That the House of Delegates requests the President of MSMA to appoint a committee of physicians from the component medical societies of the area served by St. Louis Blue Shield to work with a committee from St. Louis Blue Shield whereby changes in the by-laws of St. Louis Blue Shield will be effected to allow nomination and election of the physician members of the Voting Board and Board of Trustees of the St. Louis Blue Shield from and by the physicians of the area served. This should fairly represent the different areas of the St. Louis Blue Shield plan in Missouri.

(The motion to adopt was seconded and passed.)

The Committee disapproved the resolution introduced by Dr. George Hawkins during the Second Session concerning appointment of an investigative body of the MSMA to study present policies in health insurance and their impact upon the decreasing emphasis of the physician as a purveyor of medical care, and as a corollary resulting in an over-utilization of hospital facilities. The Committee feels this was duplication since the House of Delegates on Friday approved an annual liaison committee with various insurance carriers on a similar basis outlined in Paragraph 2, Page 9 of the published actions of the MSMA Council.

(The motion to adopt was seconded and passed.)

The Committee recommends approval of the resolution introduced by Doctor Edwards for the St. Louis Medical Society at the Second Session of the House concerning the Missouri Medical Foundation.

(The motion to adopt was seconded and passed. The motion to adopt the report as a whole was seconded and passed.)

The Speaker invited Dr. Louis P. Hetlage to give the final report of the Reference Committee on Medical Education and Public Welfare.

MEDICAL EDUCATION AND PUBLIC WELFARE

The Reference Committee on Medical Education and Public Welfare met at 5:45 PM, March 29, 1968 in Room 365 of the Muehlebach Hotel in Kansas City.

The Committee discussed the following resolutions which were introduced during the Second Session of the House of Delegates:

A resolution presented by Doctor Hetlage regarding the training of qualified osteopathic physicians as interns and residents in medical hospitals.

A resolution introduced by Dr. O. Dale Smith of Jackson County Medical Society concerning health manpower.

A resolution introduced by Dr. George Hawkins of St. Louis Medical Society regarding the need to increase the number of qualified physicians in the State of Missouri.

A resolution introduced by Dr. Joseph Edwards of the St. Louis Medical Society concerning the Missouri Medical Foundation.

The Committee then adjourned and reconvened at 8 AM, March 30, 1968, at which time the resolution introduced by Doctor Smith of Jackson County Medical Society was approved.

(The motion to adopt was seconded and approved.)

The Committee approved the resolution introduced by Doctor Hawkins of the St. Louis Medical Association, but the last WHEREAS was changed to read as follows:

WHEREAS, There are still available well-qualified candidates for undergraduate medical education whose desires and ambitions are frustrated by lack of facilities to permit their training.

(The motion to adopt was seconded and passed.)

Dr. E. A. Stricker, Councilor from the 9th District *(left)*, and Dr. Walter T. Gunn, Councilor from the 3rd District *(right)*, welcome Dr. Howard J. McAlhany to the MSMA Council. Drs. Stricker and Gunn were reelected. Doctor McAlhany was elected Councilor from the 8th District at the Annual Session.

The Committee approved the resolution introduced by Doctor Edwards regarding the Missouri Medical Foundation, which also was approved by the Committee on Resolutions.

(The Speaker noted that, due to previous action by the House, a vote at this time was unnecessary.)

The resolution introduced by Doctor Hetlage was changed to read as follows:

WHEREAS, The Missouri State Medical Association realizes the many excellent opportunities for training licensed physicians and surgeons in Missouri are not being utilized, and

WHEREAS, Many legally licensed physicians and surgeons of the State of Missouri have not been given the opportunity to participate in these training programs, and

WHEREAS, Many men who hold temporary licenses presently fill these positions, and

WHEREAS, In the past it has been the practice of medical hospitals in Missouri to reject osteopathic graduates for internship and residency even at the expense of sacrificing these training opportunities,

Now, Therefore, Be It Resolved, That the Missouri State Medical Association requests a liaison committee with the Missouri State Osteopathic Association to explore the possibility of extending post-doctoral training of interns and residents in medical hospitals in the State of Missouri to qualified osteopathic graduates licensed by the State of Missouri, and

Be It Further Resolved, That the liaison committee report to the Council periodically and to the Missouri State Medical Association House of Delegates at its next meeting in 1969.

(After discussion, the motion to adopt was seconded and passed. The motion to adopt the report as a whole was seconded and passed.)

This concluded the reports of the Reference Committees.

The Speaker introduced Dr. Martin Wilson, Vice-President of the Kentucky Medical Association, who was a guest at the Annual Session.

At the request of the Speaker, Drs. James Sisk and John A. Griffith reported on the MMPAC Board meeting which was held on Saturday.

Doctor Hollweg moved that the amendment to the By-Laws, which had been tabled during the Second Session, be taken from the table. The motion was seconded and passed.

Doctor Hollweg then presented the following Amendment to the By-Laws for action by the House:

AMENDMENT TO SECTION 1, CHAPTER VIII, BY-LAWS

Amend Chapter VIII, Section 1, Subsection (b) by striking out all of said Subsection (b) and inserting in lieu thereof the following:

(b) An assessment of $10.00 per year on each active member of the Association and $5.00 per year on each junior member shall be applicable for a three-year period beginning in 1969. The assessment shall be payable with the dues of the Association, and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation.

(The motion to adopt was seconded and passed.)

Doctor McCraw then presented a supplementary report on the Council meeting held during the Annual Session at 2:30 PM Saturday, March 30 in the Muehlebach Hotel to consider a further report of the MSMA Ad Hoc Committee on the cost of medical care. He reported as follows:

"The Ad Hoc Committee met Saturday morning to prepare a report for presentation through the Council to the House of Delegates on Sunday morning, March 31, as requested by the Reference Committee on Reports of Officers. Dr. Buessler presented a brief report on a proposal submitted by the Research Center of the School of Business and Public Administration of the University of Missouri. After discussion, Dr. Matthews presented the following motion:

" '1. We approve the proposed study as outlined by the Research Center because we think it is needed and it should be done as quickly as possible.

2. We think it should be presented to the AMA for implementation and funding because it involves every physician in America.

3. The physicians of Missouri fully support the proposed study and offer their cooperation in using the State of Missouri as a sampling area.

4. If another sample area or research organization is preferred by the AMA, this is agreeable.

5. The cooperation of pharmaceutical industry, the Hospital Association, the Health Insurance Industry, the Dental Association and the Osteopathic Association in the test area should be sought to give depth and breadth to the study.'

"The above motion was seconded and the motion carried.

"Mr. Speaker, I move the adoption of this portion of the report."

(The motion to adopt was seconded and passed.)

"Dr. Stanley Peterson, who has been on the Advisory Committee to the Division of Welfare for a number of years, attended this Council meeting and presented a letter received from the Missouri Division of Welfare, dated March 29, 1968, to physicians over the state, which limits the payments for injectables under the Missouri Medicaid program. After much discussion, Doctor Cope made the following motion:

" 'If Doctor Peterson is able to address the House of Delegates on Sunday morning, after conferring with the Director of the Division of Welfare, and can state that the Medicaid communication from the Division of Welfare will be rescinded, this Council will take no further action.'

"The motion was seconded and carried.

"Doctor Fisher then made the following motion:

" 'If the motion recently passed does not come to pass, the Council requests the House of Delegates to authorize the Council to pursue this matter in any way they deem advisable to effect retraction of this directive from the Welfare Department.'

"The motion was duly seconded and carried."

(After a lengthy discussion by numerous Delegates, the motion to approve the report of the Council as a whole was seconded and passed.)

There being no further business, the Speaker invited the officers and Councilors to come to the front of the room where the Association Secretary, Doctor Matthews, administered the oath of office.

The President, Doctor Kerr, was invited to announce his committee appointments for the 1968-1969 year. Committee members whose terms had not expired were not mentioned and it is assumed that they will continue to serve.

Scientific and Postgraduate Work—Richard W. Yore, St. Louis, Chairman; M. Pinson Neal, Columbia; Associate Members: E. D. Imes, Maryville; Glenn O. Turner, Springfield; W. Thomas Morgan, Jr., West Plains; Paul H. Rother, St. Charles; Charles P. McGinty, Cape Girardeau; Mark Dodge, Kansas City; A. J. Campbell, Sedalia; T. J. Fischer, Hannibal.

Medical Defense—W. W. Gist, Kansas City, Chairman; John W. Fries, St. Louis.

(Continued on page 554)

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Make tuberculin testing routine
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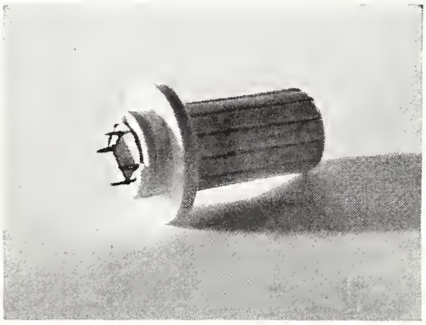

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Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.
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METHYCLOTHIAZIDE

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg.

Indications: Edema and mild to moderate hypertension (Enduron), and mild to moderately severe hypertension (Enduronyl). More potent agents, if added, can be given at reduced dosage.

Contraindications: Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease or impending hepatic coma (hepatic coma due to hypokalemia has been reported in patients on thiazides). Do not use Enduronyl in severe mental depression, suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications—Moderate to severe hypertension.

Contraindications—Pheochromocytoma, paranoid schizophrenia, hyperthyroidism and advanced renal failure. Not recommended in malignant hypertension, children under 12, pregnant patients.

Do not use with: centrally or peripherally acting sympathomimetic drugs; foods high in tyramine (e.g., aged and natural cheeses); parenteral reserpine or guanethidine; imipramine, amitriptyline, desipramine, nortriptyline or their analogues; other monoamine oxidase inhibitors; methyldopa or dopamine; separate Eutron and these agents by two weeks.

Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease; impending hepatic coma from thiazide-induced hypokalemia.

Warnings—Patients: 1. No other drugs (particularly "cold preparations" and antihistamines), cheese or alcohol without physician's consent. 2. Promptly report orthostatic symptoms, severe headache, other unusual symptoms. 3. Angina pectoris or coronary artery disease patients must not increase physical activity with improved anginal symptoms or well-being.

Physicians: 1. Use antihistamines, hypnotics, sedatives, tranquilizers and narcotics (meperidine contraindicated) cautiously in reduced doses. 2. Stop Eutron two or more weeks before elective surgery; in emergency surgery reduce premedication (narcotics, sedatives, analgesics, etc.) to 1/4 to 1/5; carefully adjust anesthetic dosage to patient response. 3. Use cautiously in advanced renal failure. 4. Pargyline may induce hypoglycemia. 5. Consider possible sensitivity reactions when a history of allergy or asthma is present. 6. If potassium is indicated, dietary supplement is recommended; enteric-coated potassium tablets may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation frequently requiring surgery; discontinue medication immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs; Eutron does not contain added potassium. 7. Possible systemic lupus erythematosus has been reported for thiazides.

Precautions—Pargyline: Use cautiously at reduced dosage: caffeine, alcohol, antihistamines, barbiturates, chloral hydrate, other hypnotics, sedatives, tranquilizers, narcotics. Periodically do urinalyses, blood counts, liver function tests, etc. Use with caution in liver disease. Watch for orthostatic hypotension, especially in impaired circulation (e.g., angina pectoris, coronary artery disease, cerebral arteriosclerosis); also, augmented hypotension in concomitant febrile illnesses. Reduce or discontinue if hypotension is severe. In impaired renal function watch for cumulative drug effects, elevated BUN and other evidence of progressive renal failure; withdraw drug if these persist. In surgery increased central depressant response (hypotension and increased sedative effect) can be controlled by (1) discontinuing at least two weeks prior; (2) in emergency surgery lowering dose of premedication; (3) when necessary, administering a vasopressor. Do not use in hyperactive and hyperexcitable patients. Pargyline may unmask severe psychotic symptoms where emotional problems pre-exist. Use cautiously in Parkinsonism, especially with antiparkinsonian agents. In prolonged therapy, examine for change in color perception, visual fields, fundi and visual acuity. Also, prolonged therapy has made certain patients refractory to nerve blocking effects of local anesthetics.

Methyclothiazide: Use cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery thiazide may reduce vasopressor response and increase tubocurarine response. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia). Give supplemental chloride if hypochloremic alkalosis occurs and supplemental potassium if hypokalemia occurs (especially in digitalized patients). Thiazides may decrease serum P.B.I. without signs of thyroid disturbance.

Adverse Reactions — Pargyline: Orthostatic hypotension and associated symptoms, mild constipation, fluid retention, edema, dry mouth, sweating, increased appetite, arthralgia, nausea, vomiting, headache, insomnia, difficult in micturition, nightmares, impotence, delayed ejaculation, rash, purpura, weight gain, hyperexcitability, increased neuromuscular activity and other extrapyramidal symptoms. Drug fever is extremely rare. Reduction in blood sugar and hypoglycemic effects are possible. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Methyclothiazide: Blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, blood sugar or serum uric acid (gout may be induced); anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice and pancreatitis. Cutaneous vasculitis in elderly patients has been reported with other thiazides.

If side effects are severe or persist, reduce dosage or withdraw drug. 804438R

ABBOTT

TM-TRADEMARK

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Executive Secretary Raymond McIntyre and newly-elected Council Chairman Joseph L. Fisher review actions taken by the 1967-1968 Council and begin plans for the new MSMA year.

Medical Economics—Herbert C. Wiegand, St. Louis, Chairman; G. W. Winn, Boonville; Associate Members: Russell D. Shelden, Kansas City; David G. Hall, Columbia; A. P. Rowlette, Moberly; Frank O. Richards, St. Louis; Charles Miller, Jr., Kirkwood; W. J. Ferguson, Sikeston; Robert H. Lund, Clayton; Grover S. Patterson, Carthage.

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Constitution and By-Laws—Kenneth C. Hollweg, Kansas City, Chairman; Paul Whitener, St. Louis.

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman; T. E. McMillan, Kansas City; Lawrence K. Halpern, St. Louis (to fill the unexpired term of James W. Bagby, who resigned); Associate Members: Gilbert Ross, Jr., Columbia; George H. Rogers, Kansas City.

Trauma—Erin M. Dillard, Springfield, Chairman; Thomas B. Ferguson, St. Louis; C. Keith Whittaker, Kansas City; Associate Members: Carl M. Peterson, Kansas City; James O. Lottes, St. Louis; John L. Barnard, Jr., Kansas City; W. Edward Lansche, St. Louis; Edwin E. Carter, Clayton.

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Aging—Robert H. Tanner, Jefferson City, Chairman; Rolla B. Wray, Nevada; Robert Koch, Clayton (to replace C. Thorpe Ray for one year); Associate Members: Norman P. Knowlton, Jr., St. Louis; William W. Woodward, Kansas City; William Leightner, St. Louis; Logan Mayfield, Crystal City; C. A. Nester, St. Louis; Joseph Conrad, Chillicothe.

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Legislative Matters—John I. Matthews, Jefferson City, Chairman; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; David N. Kerr, St. Louis; Gerald L. Miller, Kansas City; Associate Members: Hector W. Benoit, Jr., Kansas City; Arthur W. Neilson, St. Louis; Stanley S. Peterson, Springfield; J. L. Washburn, Versailles.

Alcoholism—Joseph Kendis, St. Louis, Chairman; Max Teare, Kansas City; Evelyn Griffin, Buffalo; Tom R. Burcham, Jr., Farmington; Kathleen Smith, St. Louis.

Industrial Health—John W. Berry, St. Louis, Chairman; Paul J. Centner, Kansas City; Van W. Taylor, Bonne Terre; Associate Members: Horace A. Lowe, Jr., Springfield; C. R. McAdam, St. Louis; Grosvenor Roberts, Kansas City.

Medical-Legal—Lee T. Ford, St. Louis, Chairman; Frederick J. McCoy, Kansas City; Irving H. Clark, Kansas City; Lysle M. Bach, Hannibal; Daniel L. Sexton, St. Louis; Daniel L. Yancey, Springfield; Ned D. Rodes, Mexico.

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Rural Medical Service—Charles A. Worley, Sweet Springs, Chairman; B. J. Bass, Salem; Charles C. Reeder, New Madrid; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; Lee A. McNeel, Jr., Greenfield.

Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; James MacKenzie, Columbia; R. E. Stufflebaum, Springfield; William J. Shaw, Sr., Fayette; Jack S. Sanders, Jefferson City; Keith H. Averill, Kansas City; C. Rollins Hanlon, St. Louis; Don J. Stallard, St. Joseph; David V. Miller, Poplar Bluff; Joseph C. Edwards, St. Louis; T. Tenbrook King, Kansas City; Morris Alex, St. Louis.

Tuberculosis—Florence E. MacInnis, Kansas City, Chairman; Paul Murphy, St. Louis; William J. Gillespie, St. Louis; Robert G. Muth, Kansas City; William A. Werner, St. Louis; John W. Polk, Springfield; Sheldon B. Beecher, Poplar Bluff; Judson I. Chalkley, Columbia; C. A. Brashear, Mt. Vernon.

The Speaker thanked Doctor Kerr and requested that Mrs. Doyle C. McCraw, wife of the President-Elect, be escorted to the rostrum and properly acknowledged.

The Speaker announced that the next Annual Session of the Association would be held from March 20 to 23, 1969, starting on Thursday and running through Sunday.

Dr. Robert W. Kelly, speaking for the St. Louis Medical Society and St. Louis County Medical Society, invited the Association to hold the 1969 Session in St. Louis. The invitation was accepted.

There being no additional business, the Speaker declared the 1968 Annual Session adjourned.

DID YOU . . .

attend this important 1968 Annual Session to help make decisions important to the medical profession and your patients?

PLEASE TURN TO PAGE 556!

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Missouri State Medical Association

111th ANNUAL SESSION

March 20-23, 1969

Chase-Park Plaza Hotel **St. Louis**

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Norton, William H., St. Louis
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Wiegand, Herbert C., St. Louis
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Yore, Richard W., St. Louis

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Braverman, Elliot M., Sedalia
Brazos, John C., Sedalia
Camphell, Albert J., Sedalia
Cook, Thomas B., Richmond
Cope, Joseph S., Lexington
Eklund, Alfred W., Pleasant Hill
Fisher, Stanley D., Sedalia
Giesler, Don H., Osceola
Gonser, Karl B., Sedalia
Hansen, Arthur L., Butler
King, Richard H., Clinton
Knipschild, Bedford F., Marshall
Lusk, Charles A., Jr., Butler
McBurney, C. Alex, Slater
Maddox, Albert R., Sedalia
Osborne, Charles D., Sedalia
Pascoe, James J., Nevada
Richter, William B., Stockton
Smith, James O., Clinton
Smith, William J., Windsor
Stauffacher, C. Gordon, Sedalia
Tracy, Herbert A., Belton
Watson, Cecil L., Marshall
Worley, Charles A., Sweet Springs
Wray, Rolla B., Nevada

Seventh Councilor District—139

Aisenstadt, E. Albert, Kansas City
Allen, William B., Kansas City
Anderson, Raymond B., Shawnee Mission, Kan.
Andrews, Berneil W., Kansas City
Andrus, Bailey C., Kansas City
Atcheson, Bellfield, Kansas City
Atwell, Floyd C., Kansas City
Bacola, Eleni, Kansas City
Barelli, Pat A., Kansas City
Barnard, John L., Kansas City
Barnett, Gordon P., Kansas City
Becker, Richard R., Kansas City
Becker, Rolfe, Kansas City
Bell, William F., Lee's Summit
Benoit, Hector W., Jr., Kansas City
Bergmann, Victor H., Kansas City
Blim, R. Donald, Kansas City
Bowser, John F., Kansas City
Brown, Robert S., Kansas City
Brumm, Lawrence W., Kansas City
Bruner, Robert E., Kansas City
Brust, Carl H., Mission, Kan.

Buckner, Robert C., Kansas City
Budke, Harold A., Kansas City
Buhler, Victor B., Kansas City
Caldwell, John K. Kansas City
Carlson, Hjalmar E., Kansas City
Carrier, Edson C., Kansas City
Casebolt, Buford T., Kansas City
Castillo, Michael E., Kansas City
Coffey, Ralph R., Kansas City
Culbertson, William F., Kansas City
Decker, Albert I., Kansas City
Dovenmuehle, Robert H., Kansas City
Downey, James W., Mission, Kan.
Drake, Roy E., Kansas City
Dwyer, Hugh L., Shawnee Mission, Kan.
Eanet, Morton P., Kansas City
Eldridge, Charles J., Kansas City
Elliott, Raymond, Kansas City
Engelmann, Calvin E., Kansas City
Eubank, Will R., Kansas City
Evans, Lawrence L., Kansas City
Feist, George V., Kansas City
Forsythe, Robert W., Kansas City
Fowler, Fred D., Kansas City
Fredeen, Robert C., Kansas City
Frick, John P., Kansas City
Grabske, Charles F., Sr., Independence
Graham, Wallace H., Kansas City
Gregory, Ralph W., Kansas City
Griffith, John A., Kansas City
Growdon, John A., Kansas City
Hall, Ralph R., Kansas City
Halperin, Phillip H., Kansas City
Haynes, Solon E., Kansas City
Hickerson, William H., Independence
Hoadley, William D., Kansas City
Hoeper, Samuel D., Kansas City
Hollweg, Kenneth C., Kansas City
Hungate, Carroll P., Kansas City
Hunter, Martin P., Kansas City
Hyde, Lawrence L., Kansas City
Jansen, Robert, Kansas City
Jonas, Harry S., Independence
Justus, John B., Kansas City
Kantor, Samuel, Kansas City
Kelling, Douglas, Kansas City
Kiene, Richard H., Kansas City
Kimball, Ireland W., Kansas City
Kitchen, William M., Shawnee Mission, Kan.
Korth, William M., Kansas City
Kranson, Seymour Jr., Independence
Kyger, John E., Independence
Lampton, L. M., Kansas City
Lee, Henry, Kansas City
Leitch, Cecil G., Blue Springs
Leo, William A., Kansas City
Linville, Howard, Kansas City
Long, R. Stacy, Kansas City
Lytton, George J., Kansas City

McCanse, Andrew, Kansas City
McDonnell, John F., Kansas City
McGannon, Paul T., Kansas City
McPhee, William R., Kansas City
McVay, James R., Sr., Kansas City
McVay, James R. Jr., Kansas City
MacInnis, Florence S., Kansas City
Martin, Clyde V., Kansas City
May, James W., Kansas City
Melgaard, S. Ross, Kansas City
Meyer, Paul W., Kansas City
Miller, Clinton L., Lee's Summit
Miller, Gerald L., Kansas City
Mitchell, Andrew D., Kansas City
Mitra, Nirmal K., Kansas City
Mixon, William C., Kansas City
Morley, Louise A., Shawnee Mission, Kan.
Mullen, Leo M., Kansas City
Myers, Robert M., Kansas City
Nigro, Dominic M., Kansas City
Noback, Richardson K., Kansas City
Perico, Carlos, Kansas City
Perry, Ralph, Kansas City
Peterson, Carl M., Kansas City
Peterson, Walter R., Kansas City
Pipkin, Garrett, Kansas City
Reister, Dorothy D., Shawnee Mission, Kan.
Reister, Philip D., Shawnee Mission, Kan.
Revare, Paul, Kansas City
Robinson, E. Kip, Kansas City
Rubin, Sidney, Kansas City
Sabates, Felix N., Kansas City
Samuelson, Edward A., Kansas City
Santoro, Carlos G., Kansas City
Schertz, Truman B., Kansas City
Schottman, Gerhard W., Jr., Kansas City
Shapiro, Lazare M., Kansas City
Shelden, Russell D., Kansas City
Shypper, Moses J., Kansas City
Siegel, Carl D., Kansas City
Slickman, Robert A., Kansas City
Smith, O. Dale, Kansas City
Tarson, Solomon S., Overland Park, Kan.
Stacey, Wallace, Independence
Statland, Harry, Kansas City
Stegman, Elmer G., Kansas City
Stelmach, Walter J., Kansas City
Stockwell, A. Lloyd, Kansas City
Tesson, James A., Kansas City
Werner, Dean F., Kansas City
Wheeler, Charles, Kansas City
White, Charles H., Shawnee Mission, Kan.
Whittaker, C. Keith, Kansas City
Wilkinson, Charles B., Kansas City
Wright, R. Paul, Kansas City
Young, Paul R., Kansas City

Eighth Councilor District—67

Anthony, Dallas D., Springfield
Auner, Cecil R., Springfield
Barnett, Norman H., Joplin
Bickel, Vern T., Lamar

Blankenship, George W., Neosho
Bonebrake, M. D., Springfield
Broaddus, Loren, Springfield

Brown, James, Springfield
Cain, Alvin R., Lamar
Callaway, Guy D., Jr., Springfield
Chase, Ned B., Joplin
Cheek, J. William, Springfield
Christy, Raymond A., Springfield
Cochran, Thomas E., Springfield
Cohle, Richard R., Carthage
Donley, Robert R., Monett
Esther, John R., Joplin
Farthing, Fred R., Springfield
Ferguson, John L., Springfield
Ferguson, Ralph L., Joplin
Ferrell, Thomas E., Jr., Springfield
Glover, Kenneth, Mt. Vernon
Graves, Arthur J., Mt. Vernon
Griffin, Evelyn, Buffalo
Griffin, Olin A., Buffalo
Hall, Durward G., Springfield
Hamilton, William P., Aurora
H'Doubler, Charles, Springfield
Hurst, Wilfred W., Joplin
Ivy, Henry B., Springfield
Johnston, Joseph L., Springfield
Koon, Ben, Bolivar
Lederer, Charles M., Warrensburg
Lewis, Noel R., Springfield
Litton, Lyle D., Springfield
Lockhart, Charles E., Springfield

McAlhany, Howard J., Springfield
McCraw, Doyle, Bolivar
McKinsey, John J., Springfield
McNeel, Lee A., Jr., Greenfield
McNew, William T., Carthage
Macdonnell, Thomas M., Marshfield
Maddox, John D., Joplin
Maher, Robert, Springfield
Menchetti, Don E., Springfield
Morrison, T. A., Aurora
Moseley, F. Thomas, Springfield
Overend, Don S., Springfield
Papp, Sandor D., Joplin
Patterson, Grover S., Carthage
Pence, F. Wendell, Carthage
Peterson, Stanley S., Springfield
Post, Winfred L., Joplin
Powell, Robert G., Joplin
Prater, B. G., Springfield
Roper, Stanley D., Ozark
Schoeberl, Cletus B., Joplin
Simpson, Albert P., Springfield
Smith, C. Souter, Springfield
Snead, William H., Springfield
Taylor, Leo T., Neosho
Turner, Glenn O., Springfield
Walker, William M., Springfield
Whitten, Marion F., Carthage
Wise, Gordon F., Springfield
Wommack, Fred L., Crane
Yancey, Daniel L., Springfield

Ninth Councilor District—9

Bass, Billy J., Salem
Cooper, Claude W., Thayer
Froelich, Robert E., Lebanon
Kays, Kenneth M., Rolla
Miller, Harold W., Willow Springs

Morgan, W. Thomas, Jr., West Plains
Smith, Rollin H., West Plains
Stricker, Emil A., St. James
Wall, Joseph A., Houston

Tenth Councilor District—23

Appleberry, Charles H., Flat River
Barnes, Seth S., Cape Girardeau
Burford, Edwin K., Jr., Cape Girardeau
Chastain, Charles W., Farmington
Cresswell, George, Potosi
Crowe, John T., Cape Girardeau
English, Wallace D., Cardwell
Estes, Albert M., Cape Girardeau
Farmer, Norma D., Farmington
Hansbrough, Eugene T., Poplar Bluff
Harwell, J. Lester, Poplar Bluff

Kasten, Melvin C., Cape Girardeau
McDermott, Alfred E., Perryville
McLain, Bobby M., Poplar Bluff
Osborn, Retus W., Farmington
Parks, Stephen, Sikeston
Reeder, Charles C., New Madrid
Ruff, T. Eugene, Poplar Bluff
Sarno, Samuel M., Morehouse
Seabaugh, Oda L., Cape Girardeau
Shell, William C., Sikeston
Shoss, Milton, Cape Girardeau
Turner, Kirby L., Potosi

Guest Physicians—27

Adolph, Robert, Cincinnati, Ohio
Caulk, Ralph M., Washington, D. C.
Clagett, O. T., Rochester, Minn.
Combs, Loyal W., W. Lafayette, Ind.
Dodge, Philip R., St. Louis
DuPuy, Newton, Quincy, Ill.
Eliason, Richard J., Salt Lake City, Utah
Evans, John M., Columbia
Ferguson, Paul, Lake City, Iowa
Gazes, Peter, Charleston, S. C.
Goldman, Douglas, Cincinnati, Ohio
Goodrich, Howard B., Maitland, Fla.

Hewitt, Donald A., St. Louis
Kingsland, Larry, Columbia
Krumblegel, Stanley E., Kansas City
Lambert, Joseph, Columbia
Logan, George B., Rochester, Minn.
McCleave, P. B., Rev., Dr., Chicago, Ill.
McElfresh, A. E., St. Louis
Moore, Robert, Lubbock, Tex.
Morley, Fred H., Kansas City
Ord, John W., San Antonio, Tex.
Robinson, Gary, Springfield
Schell, Victor C., Columbia
Thurston, Don L., St. Louis
Weir, Robin S., Bethany
Whitney, John M., Kansas City

There were 526 members registered, 27 guest physicians, 3 residents and interns, 177 exhibitors, 238 medical technologists, 151 Woman's Auxiliary, 81 guests, making a total registration of 1,203.

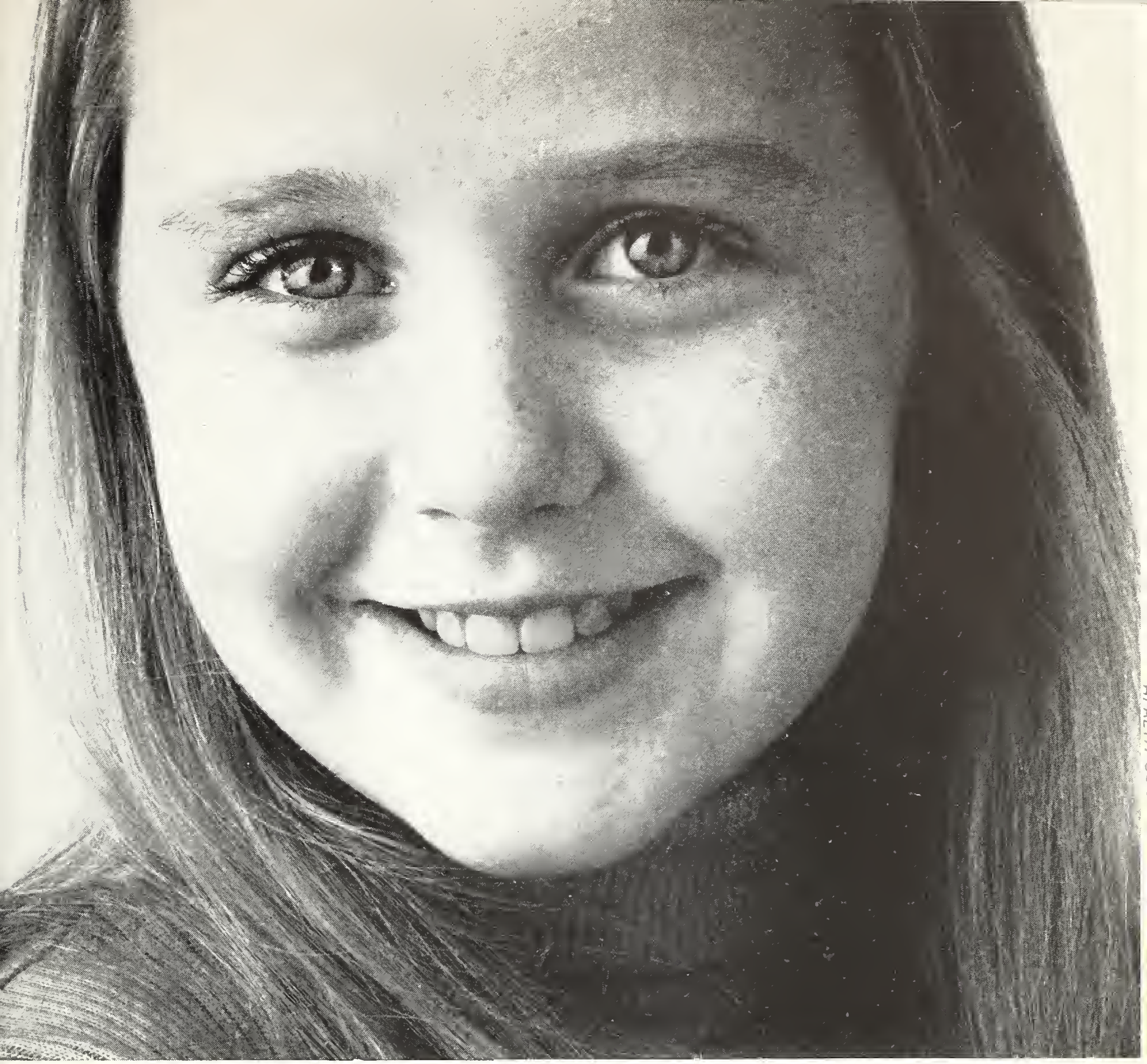

Photo professionally posed.

No injection after all!

This penicillin produces high, fast levels—orally.

Pen•Vee® K is usually so rapidly and completely absorbed that therapeutic penicillin levels are attained within 15 to 30 minutes. Thus it can often obviate the need for penicillin injections. The higher serum levels produced generally last longer than with those of oral penicillin G.

Indications: Infections susceptible to oral penicillin G: prophylaxis and treatment of streptococcal infections; treatment of pneumococcal, gonococcal, and susceptible staphylococcal infections; prophylaxis of rheumatic fever in patients with a previous history of the disease.
Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.
Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL PEN•VEE® K

(potassium phenoxymethyl penicillin) Wyeth

110TH ANNUAL SESSION EXHIBITORS

Abbott Laboratories, North Chicago, Ill.
Aloe Medical, St. Louis
Altman-Singleton & Co., Kansas City
Astra Pharmaceutical Products, Inc., Worcester, Mass.
Automated Management Systems, Kansas City
Ayerst Laboratories, New York, N. Y.
Blue Cross-Blue Shield, Kansas City
Bristol Laboratories, Syracuse, N. Y.
Cheri Lamb, Inc., Kansas City
Ciba Pharmaceutical Company, Summit, N. J.
The Coca-Cola Co., Atlanta, Ga.
Connecticut Mutual Life Insurance Co., Kansas City
Creative Systems, Waterloo, Iowa
Dome Laboratories, New York, N. Y.
Eaton Laboratories, Norwich, N. Y.
The Emko Company, St. Louis
Encyclopaedia Britannica, Inc., Chicago, Ill.
Flint Laboratories, Morton Grove, Ill.
Hoechst Pharmaceutical Co., Cincinnati, Ohio
E. F. Hutton & Co., Kansas City
Institute of Bioengineering Research, Inc., Columbia
Knoll Pharmaceutical Company, Orange, N. J.
Lederle Laboratories, Pearl River, N. Y.
Eli Lilly and Co., Indianapolis, Ind.
Mallinckrodt Pharmaceuticals, St. Louis
The Medical Protective Company, Fort Wayne, Ind.
Merck Sharp & Dohme, West Point, Pa.
Miller Pharmacal Co., St. Louis
Misemer Pharmaceuticals, Inc., Springfield
Missouri Division of Health, Jefferson City
Missouri Medical Political Action Committee, St. Louis
Missouri Regional Medical Program, Columbia
Missouri Seven-Up Bottlers Assn., St. Louis
Ortho Pharmaceutical Corp., Raritan, N. J.
Parke, Davis & Co., Detroit, Mich.
Philips Roxane Laboratories, Columbus, Ohio
Postal Investment Co., Jefferson City
Wm. P. Poythress & Co., Inc., Richmond, Va.
Roche Laboratories, Nutley, N. J.
Rowell Laboratories, Baudette, Minn.
Sandoz Pharmaceuticals, Hanover, N. J.
Southern Medical Association, Birmingham, Ala.
W. B. Saunders Company, Philadelphia, Pa.
G. D. Searle & Co., Chicago, Ill.
Smith Kline & French Laboratories, Philadelphia, Pa.
E. R. Squibb & Sons, New York, N. Y.
The Stuart Company, Pasadena, Calif.
Syntex Laboratories, Inc., Palo Alto, Calif.
University of Missouri Medical Center, Columbia
The Upjohn Company, Kalamazoo, Mich.
United Medical Equipment Company, Kansas City

Hamilton-Schmidt A Division of GENTEC Hospital Supply Company
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Surgical Instruments, Invalid and Sick Room Supplies
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medical student
loan fund
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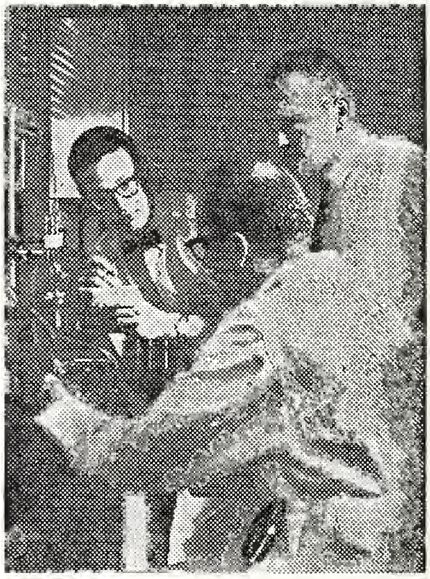
young Missourians!



MISSOURI STATE MEDICAL FOUNDATION
515 E. High St./Jefferson City, Missouri 65101
SPONSORED BY THE MISSOURI STATE MEDICAL ASSN.

Missouri State Medical Foundation

Minutes of the Annual Meeting
Hotel Muehlebach, Kansas City
Friday, March 29, 1968

The meeting was called to order by Paul R. Whitener, M.D., President, at 5 PM. A quorum was declared present. Dr. Whitener stated that the minutes of the 1967 Annual Meeting in St. Louis, immediately following the Friday afternoon, April 7, session of the MSMA House of Delegates, were published in the July, 1967 issue of MISSOURI MEDICINE. He called for any additions or deletions to the minutes. There being none, the minutes of the 1967 meeting were declared approved as published. Dr. Whitener also pointed out that the minutes of the Board of Trustees meeting, following the 1967 Annual Meeting, were also published in the July, 1967 issue of MISSOURI MEDICINE.

Dr. Whitener reported that a letter to all members of the MSMA, over the signature of the President of the Foundation, soliciting donations to the Foundation was mailed in October, 1967. The date for mailing was advanced in an effort to increase the amount of contributions. He stated, however, that again the results of the mailing were somewhat disappointing even though many doctors feel that they are supporting the Foundation through the MSMA annual assessment.

Dr. Whitener directed attention to the financial statement of the Foundation as of January 31, 1968, a mimeographed copy of which was offered to those in attendance and which reads as follows:

FINANCIAL STATEMENT FOR THE YEAR 1967

LENNERTSON & COMPANY

CERTIFIED PUBLIC ACCOUNTANTS

214 SOUTH BEMISTON AVENUE
St. Louis, Missouri 63105

January 29, 1968

Missouri State Medical Foundation
515 East High Street
Jefferson City, Mo. 65101

Gentlemen:

The records of the Missouri State Medical Foundation, a non-profit Missouri corporation, were reviewed for the year 1967. The Balance Sheet at December 31, 1967 and the additions for the year are set forth in Exhibit A.

Recorded receipts for the year were traced in total into the bank account as deposits and paid checks were seen for the disbursements. A direct confirmation was received from the depositary in verification of the cash balances on deposit.

A summary of the loans to medical students follows:

Loans Receivable January 1, 1967	$202,278.56	
Loans made during the year	38,325.00	
Interest added to principal	733.01	
Total	$241,336.57	
Less Loan Repayments	7,331.76	
Loans Receivable December 31, 1967		$234,004.81

Individual records of loans were reviewed and student loan contracts were inspected. The Foundation carried insurance on the lives of students to assure repayment of the loans in the event of death. Interest income on loans is recorded on a cash basis and the amount received in 1967 was $1,033.45. Accrued interest on outstanding loans at December 31, 1967 amounted to $13,280.89.

Interest received on the savings account and the certificate of deposit amounted to $505.23. The certificate of deposit due January 6, 1968 was renewed for six months and interest of $477.08 was received.

The Missouri State Medical Association paid expenses for the Foundation as follows:

State Registration Fee	$ 2.00
Professional Fees	400.00
Insurance Premiums	1,354.72
Printing, Stationery, Postage	467.75
Meeting Expense	54.45
Total	$2,278.92

These amounts have not been recorded as receipts and disbursements on the records of the Foundation.

U. S. Treasury Department form 990A has been prepared for the year 1967 and is due for filing on May 15, 1968.

Yours very truly,
LENNERTSON & CO.,
Certified Public Accountants.

EXHIBIT A

MISSOURI STATE MEDICAL FOUNDATION
BALANCE SHEET (CASH BASIS), DECEMBER 31, 1967

Assets

Cash in Checking Account	$ 22,396.86
Savings Account	506.23
Certificate of Deposit due January 6, 1968	19,083.51
Loans Receivable from Medical Students	234,004.81
Total Assets	$275,991.41

Fund Reserve

Balance January 1, 1967		$244,536.74
Cash Additions for Year 1967		
Interest on Loans	$ 1,033.45	
Interest on Bank Deposits	505.23	
Interest added to Principal	733.01	
Contributions (see below)	3,214.50	
Assessment of members—Active $7.50; Junior $3.75	25,968.48	
Total for year 1967		31,454.67
Total Reserve		$275,991.41

Contributions

West Central Society, Nevada, Mo.	$ 600.00
Paul R. Whitener, M.D., St. Louis, Mo.	250.00
Boonville Medical Group, Boonville, Mo.	100.00
Ralph Ringo Coffey, M.D., Kansas City, Mo.	100.00
Northland Orthopedic Group	100.00
Roy W. Pearse, Jr., M.D., Nevada, Mo.	100.00
South Central Medical Society, West Plains, Mo.	100.00
Quinton Tarver, M.D., Kennett, Mo.	100.00
Sub-total	$ 1,450.00
Contributions under $100 each	1,764.50
Total Contributions	$ 3,214.50

(The following report was made subsequent to the above audit.)

Balance on hand 12-31-67		$41,986.60
Spring loans—1968 (Number of loans—30)		21,850.00
		$20,136.60
Income January 1968		2,107.55
		$22,244.15
Cash on hand 1-31-68		
Checking account	$ 2,654.41	
Savings account	19,589.74	
Total cash on hand 1-31-68		$22,244.15

Dr. Whitener called for the next order of business which was the election to the Board of Trustees. Kenneth C. Hollweg, M.D., Kansas City, was elected to a five-year term on the Board of Trustees of the Missouri State Medical Foundation, a non-profit organization which makes educational loans to medical students who are permanent residents of Missouri. Max Franklin, M.D., St. Louis, was elected to fill the two-year, unexpired term of Leonard T. Furlow, M.D., St. Louis, who has moved from Missouri. David N. Kerr, M.D., St. Louis, becomes an ex-officio member of the Board as incoming President of the Missouri State Medical Association.

Dr. Whitener then called for any other business to come before the meeting. There being none, he announced that a short meeting of the Board of Trustees would follow immediately after the adjournment of the Annual Meeting.

The meeting adjourned at 5:15 PM

Minutes of the MSMF Board of Trustees Meeting Hotel Muehlebach, Kansas City Friday, March 29, 1968

The meeting of the Board of Trustees was called to order by Paul R. Whitener, M.D., President, immediately following the adjournment of the Annual Meeting of the MSMF. Present were Drs. Paul Whitener, Max Franklin, Kenneth Hollweg and Hector W. Benoit, Jr.

Dr. Whitener explained that the purpose of the meeting was for election of officers. The President invited nominations for the respective officers of President, Vice-President and Secretary-Treasurer. Since no nominations were submitted, the following officers were unanimously reelected to serve for one year: Paul R. Whitener, M.D., St. Louis, President of the Board; Albert Cross, M.D., Trenton, Vice-President; and Charles R. Doyle, M.D., St. Louis, Secretary-Treasurer.

Mr. Thomas P. Fox was reappointed Assistant Secretary and will assist in the administration of the Foundation's program.

Next order of business was a discussion of the annual solicitation letter mailed to the full membership of the MSMA. Considering the administrative costs and the net income resulting from the letter, it was decided to discontinue such a letter. In lieu thereof, a letter or article written by the President will be published in Missouri Medicine soliciting contributions to the Foundation. It was agreed, also, that action should be taken to enlist the support and contributions to the Foundation from the full membership of the Woman's Auxiliary of the Missouri State Medical Association.

The President reported that the MSMA House of Delegates, during the 110th Annual Session, approved extension of dues assessment for continued financing of the Missouri State Medical Foundation for years 1969, 1970 and 1971. Also approved by the House was an increase in assessment from $7.50 to $10.00 annually for active members and from $3.75 to $5.00 for junior members.

There being no further business the Board was declared adjourned at 5:25 PM.

CLASSIFIED ADS

FOR SALE—Doctors' office building and equipment. Active practice. Retiring. St. Louis County, Mo. Contact Box 344, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

PHYSICIANS NEEDED—General practitioner, with particular interest in psychiatry or internal medicine. Equal opportunity employer. Apply Chief of Staff, VAH, Jefferson Barracks, Missouri 63125.

UNUSUAL OPPORTUNITY—Large, established general practice of 15 years, due to untimely death of young physician. Includes large OB practice. Office in suburban area, nine miles from downtown Kansas City; two blocks from hospital with open staff. Completely equipped—laboratory, bookkeeping records, etc. Allergist and another physician in building. Area urgently needs continued services of a GP. Contact Box 347, c/o Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

WANTED—Obstetrician, Internist, Pediatrician or General Practitioner interested in these disciplines or interested in anesthesia to join six-man hospital-clinic group. Write V. W. Lehr, Administrator, Grim-Smith Hospital & Clinic, 112-201 E. Patterson, Kirksville, Mo. 63501.

INTERNIST—Established four-man group practice in 20,000 population area needs internist urgently. Own clinic building adjacent to new 100-bed, accredited hospital. Salary $20,000 first year, then equal partnership, Lebanon Medical Center, Harwood at Chestnut, Lebanon, Mo. 65536.

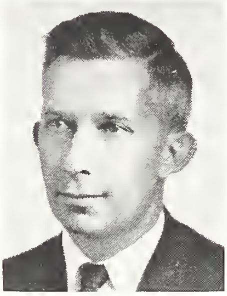
INTERNIST WANTED—Board Quality; for four-man group in Iowa; two internists, two surgeons; own building; large, modern hospital; Midwest shopping and medical center; 30,000; well balanced economy; two hours to three large cities; lake resort ten miles away; hunting and fishing area; skiing two hours away; excellent school system; Junior College; art gallery; superb library facilities. Salary $20,000 to $22,000 depending upon qualifications. Early partnership. Contact Box 348, Missouri State Medical Association, 515 E. High St., Jefferson City, Mo. 65101.

WANTED—General practitioner or internist and an OB-Gyn man for a well-established, four-man group practice in an old, historical town serving a population area of approximately 20,000. We have a fully accredited, 78-bed hospital with laboratory and radiology service. Write to Medical Clinic, Lexington, Mo. 64067.

Purposes of Association

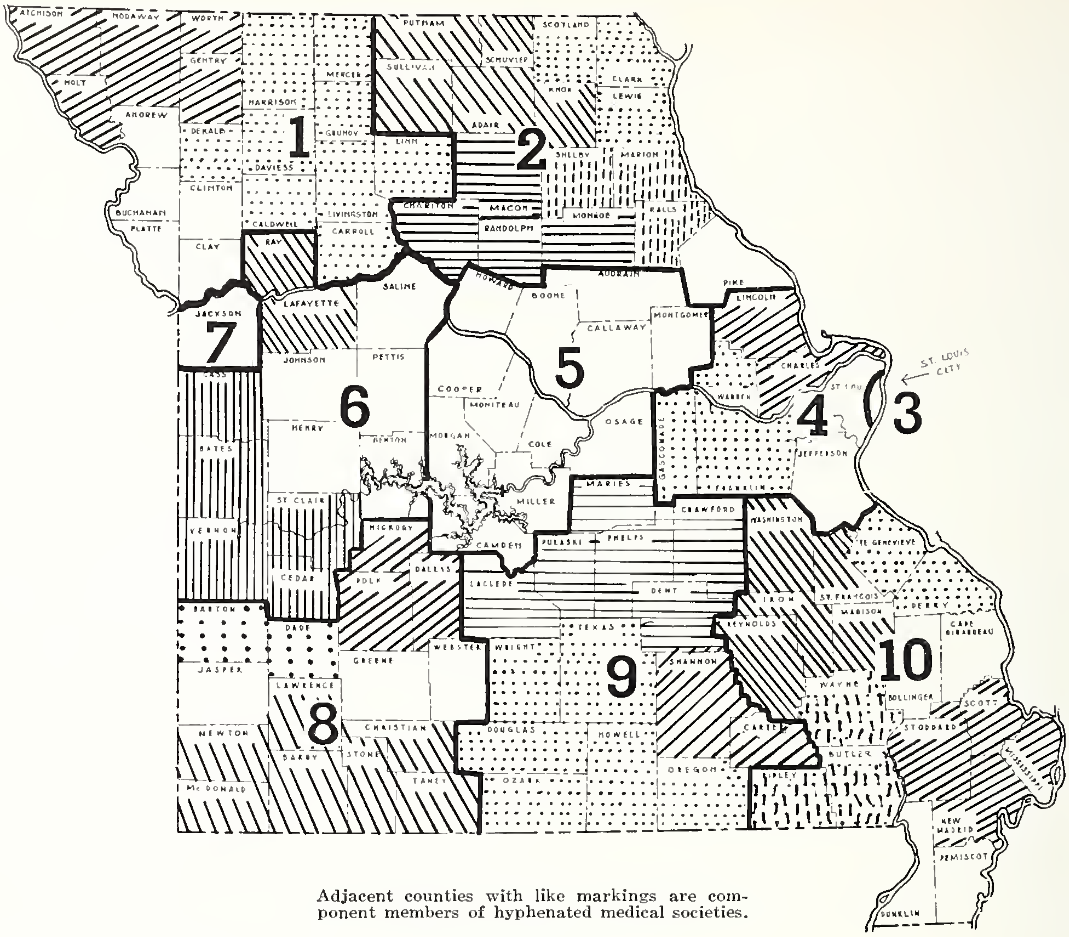
THE PURPOSES of the Missouri State Medical Association are to bring into compact organization the entire medical profession of the State of Missouri with the view of the extension of medical knowledge and the advancement of medical science, to promote and elevate the standards of medical education and the enactment and enforcement of just medical and public health laws, to encourage friendly intercourse among physicians, to guard and sustain measures of interest and advantage to the public and the medical profession, and to promote science, knowledge and skill among the medical profession.

1950 MSMA Handbook
Centennial Issue



Joseph V. Finnegan
Editor

Councilor Districts and Counties in Each District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ST. LOUIS CITY
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MERCER
PUTNAM
SCHUYLER
SCOTLAND
CLARK
HOLT
GENTRY
SULLIVAN
ADAIR
KNOX
LEWIS
ANDREW
DEKALB
DAVIESS
GRUNDY
LINN
MACON
SHELBY
MARION
BUCHANAN
CLINTON
CALDWELL
LIVINGSTON
CHARITON
RANDOLPH
MONROE
RALLS
PLATTE
CLAY
RAY
CARROLL
AUDRAIN
PIKE
JACKSON
LAFAYETTE
SALINE
HOWARD
BOONE
LINCOLN
MONTGOMERY
CALLAWAY
CASS
JOHNSON
PETTIS
COOPER
MONITEAU
CHARLES
WARREN
ST. LOUIS
BATES
HENRY
BENTON
MORGAN
COLE
OSAGE
GASCONADE
FRANKLIN
JEFFERSON
ST. CLAIR
MILLER
MARIES
CRAWFORD
WASHINGTON
VERNON
HICKORY
CAMDEN
PULASKI
PHELPS
STE. GENEVIEVE
CEDAR
POLK
DALLAS
LACLEDE
DENT
IRON
ST. FRANCOIS
MADISON
PERRY
BARTON
DADE
TEXAS
REYNOLDS
CAPE GIRARDEAU
JASPER
GREENE
WEBSTER
WRIGHT
SHANNON
WAYNE
BOLLINGER
LAWRENCE
SCOTT
NEWTON
CHRISTIAN
DOUGLAS
HOWELL
CARTER
STODDARD
BARRY
STONE
BUTLER
McDONALD
TANEY
OZARK
OREGON
RIPLEY
MISSISSIPPI
NEW MADRID
PEMISCOT
DUNKLIN

Adjacent counties with like markings are component members of hyphenated medical societies.

DISTRICT	COUNCILOR	COUNTIES
First	**Joseph L. Fisher, M.D.** (Chairman) St. Joseph	Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Linn, Livingston, Mercer, Nodaway, Platte and Worth
Second	**Lysle M. Bach, M.D.** Hannibal	Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby and Sullivan
Third	**Walter T. Gunn, M.D.** St. Louis	St. Louis (City)
Fourth	**Robert A. Mayer, M.D.** St. Louis County	Franklin, Gasconade, Jefferson, Lincoln, St. Charles, St. Louis (County) and Warren.
Fifth	**James C. Cope, M.D.** Columbia	Audrain, Boone, Callaway, Camden,* Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan and Osage*
Sixth	**Rolla B. Wray, M.D.** Nevada	Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline and Vernon
Seventh	**Gerald L. Miller, M.D.** (Vice-Chairman) Kansas City	Jackson
Eighth	**Howard J. McAlhany, M.D.** Springfield	Barry, Barton, Christian, Dade, Dallas, Greene, Hickory, Jasper, Lawrence, McDonald, Newton, Polk, Stone, Taney and Webster
Ninth	**E. A. Stricker, M.D.** St. James	Carter, Crawford, Dent, Douglas, Howell, Laclede, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon, Texas and Wright
Tenth	**W. D. English, M.D.** Cardwell	Bollinger,* Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington and Wayne

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* Counties with no medical organization.

Component Societies in Affiliation With the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	Gilbert B. Kelley	Savannah	Warren C. Baker	Savannah
Audrain	5	Lawrence K. Epple	Mexico	Thomas L. Dwyer	Mexico
Barton-Dade	8	Lee A. McNeel	Greenfield	Harold Bauer	Lockwood
Benton	6			James A. Logan	Warsaw
Boone	5	David G. Hall	Columbia	H. M. Hardwicke	Ashland
Buchanan	1	Berwyn H. Moen	St. Joseph	Owen W. D. Craig	St. Joseph
Butler-Wayne-Ripley	10	Arthur T. Tuma	Poplar Bluff	Barry B. White	Poplar Bluff
Callaway	5	J. K. Ritterbusch	Fulton	Jay F. Tuttle	Fulton
Cape Girardeau	10	Harold B. Rapp	Cape Girardeau	J. W. Terry, Jr.	Cape Girardeau
Carter-Shannon	9			Harry D. Rollins	Winona
Chariton-Macon-Monroe-Randolph	2	D. E. Eggleston	Macon	C. C. Cohrs	Moberly
Clay	1	G. Comer Bates	Kansas City	Lawrence L. Hayes	Kansas City
Clinton	1	Wilber Spalding	Plattsburg	John P. Mabrey	Plattsburg
Cole	5	Matthew J. Doyle	Jefferson City	Fred P. Handler	Jefferson City
Cooper	5	Byron M. Stuart	Boonville	W. B. Avery	Boonville
Dallas-Hickory-Polk	8	G. G. Robinson	Humansville	Evelyn Griffin	Buffalo
Dunklin	10	John K. Legan	Kennett	Quinton Tarver	Kennett
Franklin-Gasconade-Warren	4	R. W. Moellenhoff	Washington	Donald L. Baker	Union
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	Wm. L. Fair	Chillicothe	W. B. Atcheson	Trenton
Greene	8	Dallas D. Anthony	Springfield	James S. Key	Springfield
Henry	6	Shelby B. Hughes	Clinton	Ray S. Hollingsworth	Clinton
Howard	5	Wm. G. Marshall	Glasgow	Wm. J. Shaw, Jr.	Fayette
Jackson	7	E. H. Stratemeier	Kansas City	S. Ross Melgaard	Kansas City
Jasper	8	C. B. Schoeberl	Joplin	Herbert J. Schmidt	Joplin
Jefferson	4	Francis L. Kozal	Crystal City	James L. Mayfield	Crystal City
Johnson	6	Hugh A. Hanna	Warrensburg	Edward G. Cada	Warrensburg
Lafayette-Ray	6	F. A. Crozier	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2	Earl E. Gilfillan	Memphis	Landis Y. Davis	Canton
Lincoln-St. Charles	4	Louis P. Hetlage	Troy	Vincent P. Perna	St. Louis
Marion-Ralls-Shelby	2	A. J. Grant	Hannibal	James K. Mann	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)	9	B. J. Bass	Salem	Barbara E. Russell	Rolla
Miller	5	E. O. Shelton	Eldon	Carl T. Buehler, Jr.	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds)	10	Kirby L. Turner	Potosi	William Ford	Farmington
Moniteau	5	Kenyon S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	Samuel J. Byland	Wellsville
Morgan	5	Ruth Kauffman	Versailles	J. L. Washburn	Versailles
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	E. M. Grim	Kirksville	Robert W. Buben	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	Troy O. Morgan, Jr.	Albany	Frank B. Matteson	Grant City
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	George C. Olive	Neosho	Charles A. Spears	Branson
Pemiscot	10	Oliver W. Cook	Caruthersville	C. W. McKaskle	Caruthersville
Perry-Ste. Genevieve	10	Stanley G. Legner	Perryville	A. E. McDermott	Perryville
Pettis	6	Donald Eldenburg	Sedalia	Elmer H. VanDyke	Sedalia
Pike	2	Edward K. Jackson	Clarksville	Lawrence G. Stuerman	Louisiana
Platte	1	Ireland W. Kimball	Kansas City	S. Lloyd Allen	Kansas City
St. Louis City	3	Robert W. Kelley	St. Louis	Joseph B. Vacca	St. Louis
St. Louis County	4	Melvin M. Schwartz	St. Louis	Paul Miles	St. Louis
Saline	6	Robert C. Haynes	Marshall	Donald L. McCoy	Marshall
Semo County Medical Society (Stoddard-New Madrid-Scott-Mississippi)	10	Wilson Ferguson	New Madrid	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	William F. Dreyer	Houston	Rollin H. Smith	West Plains
Webster	8	T. M. Macdonnell	Marshfield	Robert J. Bareis	Marshfield
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Rolla B. Wray	Nevada	Roy W. Pearse, Jr.	Nevada

Physician Distribution

(List of Missouri communities where MSMA member physicians are in active practice. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community would normally belong.)

A

Affton, St. Louis*
Albany, Gentry, Northwest Missouri
Altenberg, Perry
Appleton City, St. Clair, West Central
Arnold, Jefferson
Aurora, Lawrence, Ozarks
Ava, Douglas, South Central

B

Ballwin, St. Louis*
Belton, Cass, West Central
Berkeley, St. Louis*
Bethany, Harrison, Grand River
Bismarck, St. Francois, Mineral Area
Bloomfield, Stoddard, SEMO
Blue Springs, Jackson
Bolivar, Polk, Dallas-Hickory-Polk
Bonne Terre, St. Francois, Mineral Area
Boonville, Cooper
Bourbon, Crawford, Mid Missouri
Bowling Green, Pike
Branson, Taney, Ozarks
Braymer, Caldwell, Grand River
Brentwood, St. Louis*
Bridgeton, St. Louis*
Brookfield, Linn, Grand River
Browning, Linn, Grand River
Brunswick, Chariton
Buckner, Jackson
Buffalo, Dallas
Butler, Bates, West Central

C

Cabool, Texas, South Central
Cainesville, Harrison, Grand River
California, Moniteau
Camdenton, Camden
Cameron, Clinton
Canton, Lewis
Cape Girardeau, Cape Girardeau
Cardwell, Dunklin
Carrollton, Carroll, Grand River
Carthage, Jasper
Caruthersville, Pemiscot
Cassville, Barry, Ozarks
Centralia, Boone
Chaffee, Scott, SEMO
Charleston, Mississippi, SEMO
Chesterfield, St. Louis*
Chillicothe, Livingston, Grand River
Clarksville, Pike
Clayton, St. Louis*
Clinton, Henry
Columbia, Boone
Concordia, Lafayette
Crane, Stone, Ozarks
Creve Coeur, St. Louis*
Crystal City, Jefferson
Cuba, Crawford, Mid Missouri

D

Desloge, St. Francois, Mineral Area
DeSoto, Jefferson
Dexter, Stoddard, SEMO
Doniphan, Ripley, Butler-Ripley-Wayne

E

East Prairie, Mississippi, SEMO
Edina, Knox, North Central
Eldon, Miller
El Dorado Springs, Cedar, West Central
Elsberry, Lincoln
Everton, Jackson
Excelsior Springs, Clay

F

Farmington, St. Francois, Mineral Area
Fayette, Howard
Fenton, St. Louis*
Ferguson, St. Louis*
Festus, Jefferson
Flat River, St. Francois, Mineral Area
Florissant, St. Louis*
Forsyth, Taney, Ozarks
Fort Leonard Wood, Pulaski, Mid-Missouri
Fredericktown, Madison, Mineral Area
Frontenac, St. Louis*
Fulton, Callaway

G

Gallatin, Daviess, Grand River
Gashland, Clay
Gideon, New Madrid, SEMO
Gladden, St. Louis*
Glasgow, Howard
Glendale, St. Louis*
Gordonville, Cape Girardeau
Gower, Clinton
Grandview, Jackson
Grant City, Worth, Northwest Missouri
Gravois Mills, Jackson
Greenfield, Dade, Barton-Dade

H

Hamilton, Caldwell, Grand River
Hannibal, Marion
Harrisonville, Cass, West Central
Hayti, Pemiscot
Herculaneum, Jefferson
Hermann, Gasconade, Franklin-Gasconade-Warren
Hickman Mills, Jackson
Higginsville, Lafayette
Hillsboro, Jefferson
Holden, Johnson
Hornersville, Dunklin
Houston, Texas, South Central
Humansville, Polk, Dallas-Hickory-Polk
Huntsville, Randolph, Chariton-Macon-Monroe-Randolph

I

Illmo, Cape Girardeau
Independence, Jackson
Ironton, Iron, Mineral Area

J

Jackson, Cape Girardeau
Jefferson Barracks, St. Louis*
Jefferson City, Cole
Jennings, St. Louis*
Joplin, Jasper

K

Kansas City, Jackson
Kennett, Dunklin
King City, Gentry, Northwest Missouri
Kirksville, Adair, North Central
Kirkwood, St. Louis*
Knobnoster, Johnson
Knox City, Knox, North Central
Koch, St. Louis*

L

Ladue, St. Louis*
Lakeview Heights, Benton
Lamar, Barton
Lawson, Ray
Leadwood, St. Francois, Mineral Area
Lebanon, Laclede, Mid Missouri
Lee's Summit, Jackson
Leeton, Johnson
Lemay, St. Louis*
Lexington, Lafayette
Liberty, Clay
Lockwood, Dade, Barton-Dade
Louisiana, Pike

M

Macon, Macon, Chariton-Macon-Monroe-Randolph
Malden, Dunklin
Maplewood, St. Louis*
Marceline, Linn, Grand River
Marshall, Saline
Marshfield, Webster
Marthasville, Warren, Franklin-Gasconade-Warren
Martin City, Jackson
Maryville, Nodaway, Northwest Missouri
Maysville, De Kalb, Grand River
Memphis, Scotland, Lewis-Clark-Scotland
Mexico, Audrain
Milan, Sullivan, North Central
Moberly, Randolph, Chariton-Macon-Monroe-Randolph
Monette, Barry, Ozarks
Montgomery City, Montgomery
Morehouse, New Madrid, SEMO
Morrisville, Polk, Dallas-Hickory-Polk
Mound City, Holt, Northwest Missouri
Mountain Grove, Wright, South Central
Mountain View, Howell, South Central
Mount Vernon, Lawrence, Ozarks

N

Neosho, Newton, Ozarks
Nevada, Vernon, West Central
New Florence, Montgomery
New Haven, Franklin
New Madrid, New Madrid, SEMO
Normandy, St. Louis*
North Kansas City, Clay

O

Oak Grove, Jackson
Odessa, Lafayette
O'Fallon, St. Charles, Lincoln-St. Charles
Olivette, St. Louis*
Osceola, St. Clair, West Central
Overland, St. Louis*
Owensville, Gasconade, Franklin-Gasconade-Warren
Ozark, Christian, Ozarks

P

Pacific, Franklin
Palmyra, Marion
Paris, Monroe, Chariton-Macon-Monroe-Randolph
Parkville, Platte
Parma, New Madrid, SEMO
Pattonsburg, Daviess, Grand River
Pattonville, St. Louis*
Perrville, Perry
Piedmont, Wayne, Butler-Ripley-Wayne
Pine Lawn, St. Louis*
Platte City, Platte
Plattsburg, Clinton
Pleasant Hill, Cass, West Central
Poplar Bluff, Butler
Portageville, New Madrid, SEMO
Potosi, Washington, Mineral Area
Princeton, Mercer, Grand River

R

Raytown, Jackson
Reeds Springs, Stone, Ozarks
Republic, Greene
Rich Hill, Bates, West Central
Richmond, Ray, Lafayette-Ray
Richmond Heights, St. Louis*
Ridgeway, Harrison, Grand River
Robertson, St. Louis*
Rock Hill, St. Louis*
Rockport, Atchison, Northwest Missouri
Rolla, Phelps, Mid Missouri

S

St. Ann, St. Louis*
St. Charles, St. Charles, Lincoln-St. Charles
St. Clair, Franklin
Ste. Genevieve, Ste. Genevieve, Perry-St. Genevieve

St. James, Phelps, Mid Missouri
St. Joseph, Buchanan
St. Louis City*
Salem, Dent, Mid Missouri
Salisbury, Chariton
Sappington, St. Louis*
Sarcoxie, Jasper
Savannah, Andrew
Sedalia, Pettis
Senath, Dunklin
Shelbina, Shelby, Marian-Ralls-Shelby
Shelbyville, Shelby, Marion-Ralls-Shelby
Shrewbury, St. Louis*
Sikeston, Scott, SEMO
Slater, Saline
Smithton, Pettis
Smithville, Clay
Springfield, Greene
Stanberry, Gentry, Northwest Missouri
Steele, Pemiscot
Steelville, Crawford, Mid Missouri
Stockton, Cedar, West Central
Strafford, Greene
Sullivan, Franklin
Sweet Springs, Saline

T

Tarkio, Atchison, Northwest Missouri
Thayer, Oregon, South Central
Trenton, Grundy, Grand River
Troy, Lincoln

U

Union, Franklin
University City, St. Louis*

V

Valley Park, St. Louis*
Vandalia, Audrain
Versailles, Morgan

W

Warrensburg, Johnson
Warrenton, Warren, Franklin-Gasconade-Warren
Warsaw, Benton
Washington, Franklin
Waverly, Lafayette
Waynesville, Pulaski, Mid Missouri
Webb City, Jasper
Webster Groves, St. Louis*
Wellsville, Montgomery
Wentzville, St. Charles, Lincoln-St. Charles
West Plains, Howell, South Central
Willard, Greene
Willow Springs, Howell, South Central
Windsor, Henry
Winona, Shannon, Carter-Shannon
Winston, Daviess, Grand River

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* Member may belong to St. Louis County Medical Society or St. Louis Medical Society.

For Your Records . . . .

The 111th ANNUAL SESSION

of the

Missouri State Medical Association

will be held on

March 20-23, 1969

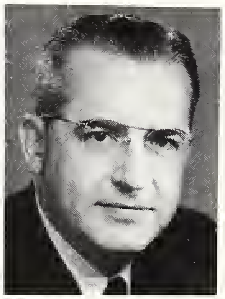
Chase-Park Plaza Hotel
St. Louis

Missouri State Medical Association

1968-1969 Officers

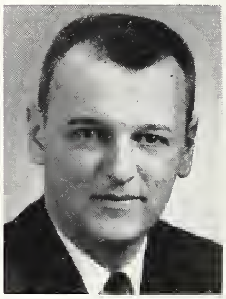
David N. Kerr
President

Doyle C. McCraw
President-Elect


Hector W. Benoit, Jr.
Immediate Past-President

Arthur W. Neilson
Vice-President

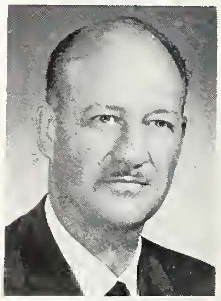
Charles D. Osborne
Vice-President


Erroll W. Allen
Vice-President

John I. Matthews
Secretary

Max S. Franklin
Treasurer

Paul F. Max
Speaker

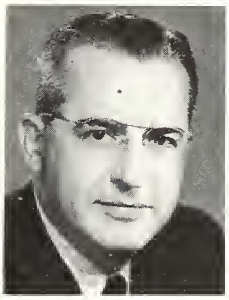

E. D. Imes
Vice-Speaker

AMA Delegates

Stanley S. Peterson

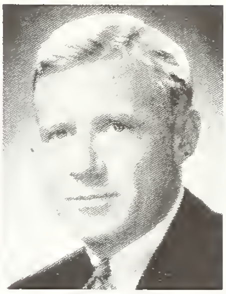
Arthur W. Neilson

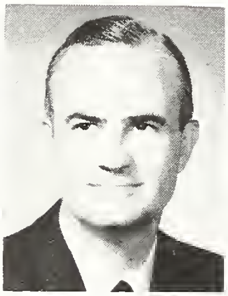
J. Loren Washburn

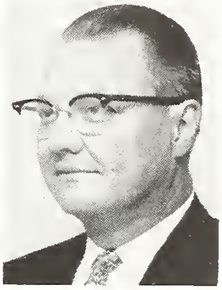

Hector W. Benoit, Jr.

Alternate Delegates

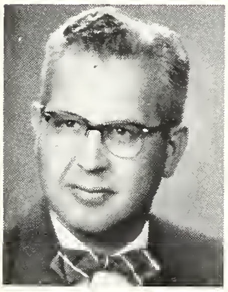
Robert W. Kelley


Hugh E. Stephenson, Jr.

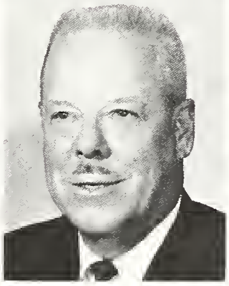

Thompson E. Potter


James C. Sisk

The Council


Joseph L. Fisher
1st District
Chairman

Lysle M. Bach
2nd District

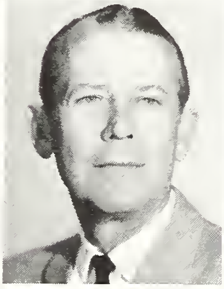

Walter T. Gunn
3rd District

Robert A. Mayer
4th District

James C. Cope
5th District

Rolla B. Wray
6th District

Gerald L. Miller
7th District
Vice-Chairman


Howard J. McAlhany
8th District

E. A. Stricker
9th District

W. D. English
10th District

MSMA Committees 1968-1969

STANDING COMMITTEES

Scientific and Postgraduate Work—Richard W. Yore, St. Louis, Chairman (1970); John I. Matthews, Jefferson City (1969); J. F. McDonnell, Kansas City (1969); M. Pinson Neal, Columbia (1971); Edward D. Kinsella, St. Louis (1970). **Associate Members**—E. D. Imes, Maryville; Glenn O. Turner, Springfield; W. Thomas Morgan, Jr., West Plains; Paul H. Rother, St. Charles; Charles P. McGinty, Cape Girardeau; Mark Dodge, Kansas City; A. J. Campbell, Sedalia; T. J. Fischer, Hannibal.

Publication—Joseph V. Finnegan, St. Louis, Chairman; Richard H. Kiene, Kansas City; C. G. Stauffacher, Sedalia; R. O. Muether, St. Louis; Ben M. Bull, Ironton (1969).

Medical Defense—W. W. Gist, Kansas City, Chairman (1971); Gilbert B. Kelley, Savannah (1970); Max S. Franklin, St. Louis (1969); John W. Fries, St. Louis (1971); Chester R. Peck, Jr., Kennett (1970).

Medical Education and Hospitals—Ralph R. Hall, Kansas City, Chairman (1969); William A. Knight, Jr., St. Louis (1971); William T. McNew, Carthage (1971); William C. Allen, Columbia (1970); Carl E. Lischer, St. Louis (1970). **Associate Members**—Willard M. Allen, St. Louis; Aaron D. Freedman, Kansas City; Thompson E. Potter, St. Joseph; George E. Thoma, Jr., St. Louis; John A. Nuetzel, St. Louis.

Medical Economics—Herbert C. Wiegand, St. Louis, Chairman (1969); Martin P. Hunter, Kansas City (1969); G. W. Winn, Boonville (1971); Chester L. Clark, Trenton (1970); Rae W. Froelich, Lebanon (1970). **Associate Members**—Russell D. Shelden, Kansas City; David G. Hall, Columbia; A. P. Rowlette, Moberly; Frank O. Richards, St. Louis; Charles Miller, Jr., Kirkwood; W. J. Ferguson, Sikeston; Robert H. Lund, Clayton; Grover S. Patterson, Carthage.

Cancer—E. J. Schewe, Columbia, Chairman (1970); Joseph L. Fisher, St. Joseph (1969); Russell J. Crider, St. Charles (1971); Guy N. Berry, Kansas City (1971); Charles R. Gulick, St. Louis (1970). **Associate Members**—Ben H. Koon, Bolivar; Jose M. Sala, Springfield; J. Stewart Whitmore, Kansas City; James F. Dowd, Jr., St. Louis; Eugene T. Hansbrough, Poplar Bluff; William L. Drake, Jr., St. Louis; Byron E. Watts, Jefferson City.

Maternal Welfare—William B. See, Columbia, Chairman (1971); Irwin T. Craig, Joplin (1969); Seymour Monat, St. Louis (1971); Eugene G. Hamilton, St. Louis (1970); Leonard A. Wall, Kansas City (1970). **Associate Members**—C. G. Stauffacher, Sedalia; Edward M. Grim, Kirksville; Raymond C. Conrad, Springfield; Edmund W. Kline, St. Joseph; Paul E. Kratz, Cape Girardeau; Carl J. Dreyer, St. Louis; Lyman D. Brown, Springfield; Thomas L. Stribling, Independence; Thomas H. McGuire, Kansas City; William F. McGinnis, St. Louis.

Infant and Child Care—Guy N. Magness, University City, Chairman; E. J. Schwartz, Springfield; James K. Mann, Hannibal; H. E. Petersen, St. Joseph; Francis X. Lieb, St. Louis; James A. Kinder, Cape Girardeau; Robert J. Harris, Columbia; James J. Pascoe, Nevada; Barbara E. Russell, Rolla; Richard Blim, Kansas City. **Associate Members**—C. Read Boles, Clayton; Raymond J. LaDriere, St. Louis; Stephen B. Pakula, Kansas City; Willard B. Avery, Boonville; Juliette M. Eliscu, Joplin (1969).

Mental Health—James N. Haddock, St. Louis, Chairman; Henry V. Guhleman, Jefferson City; Paul W. Hayes, St. Joseph; Robert S. Terrill, Kansas City; Marie Mowrer, St. Louis; D. R. Edwards, Sedalia; Johannes F. Hulstra, Springfield; Paul L. Barone, Nevada; Edward T. Auer, St. Louis; Harold D. Wolff, St. Louis. **Associate Members**—Robert D. Brookes, St. Louis; Charles B. Wilkinson, Kansas City; Carleton J. Lindgren, Kansas City; Edmond V. Cowdry, Jr., St. Louis (1969).

Constitution and By-Laws—Kenneth C. Hollweg, Kansas City, Chairman (1971); W. A. Bloom, Fayette (1969); Paul R. Whitener, St. Louis (1971); Byron M. Stuart, Boonville (1970); J. William Thompson, St. Louis (1970).

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman (1971); John Martin, St. Joseph (1969); T. E. McMillan, Kansas City (1971); John C. Murphy, St. Louis (1970); A. W. Neilson, St. Louis (1970). **Associate Members**—Gilbert Ross, Jr., Columbia; George H. Rodgers, Kansas City.

Trauma—Erin M. Dillard, Springfield, Chairman (1970); Thomas B. Ferguson, St. Louis (1971); Wilbur P. McDonald, St. Joseph (1969); Paul C. Miltenberger, Kennett (1969); C. Keith Whittaker, Kansas City (1971). **Associate Members**—Carl M. Peterson, Kansas City; J. Otto Lottes, St. Louis; John L. Barnard, Jr., Kansas City; W. Edward Lansche, St. Louis; Edwin E. Carter, Clayton.

Eye Health—Flavius G. Pernoud, St. Louis, Chairman (1970); Paul G. Wolff, Cape Girardeau (1969); Earl G. Padfield, Jr., Kansas City (1971); John D. Maddox, Joplin (1970); Truman B. Schertz, North Kansas City (1970). **Associate Members**—John F. Bradford, Kansas City; Wilbur H. Lewin, St. Louis; D. E. Eggleston, Macon; Jack Hartstein, University City; George Mandler, Chillicothe; H. B. Stauffer, Jefferson City; Bill G. Prater, Springfield; Wilber B. Spalding, Jr., Kansas City; Paul W. Miles, St. Louis.

Diabetes Mellitus—Harold K. Roberts, St. Louis, Chairman (1969); Loren Broaddus, Springfield (1971); H. E. Oppenheimer, St. Louis (1969); Thomas W. Burns, Columbia (1970); Donald A. Black, Kansas City (1970). **Associate Members**—Wm. H. Olmsted, St. Louis; Harold Ridings, Cape Girardeau; C. C. Cohrs, Moberly; Wallace P. McKee, Kansas City; Harvey Walker, Jr., St. Louis.

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Disaster Medical Care and National Defense—John T. Crowe, Cape Girardeau, Chairman; George L. Watkins, Farmington; Carl D. Siegel, Kansas City; Carroll P. Hungate, Kansas City; William F. Bell, Lee's Summit; Durand Benjamin, St. Louis; Ned B. Chase, Jr., Joplin; Allen P. Klippel, Clayton; O. P. Hampton, St. Louis; Joseph P. Russell, Jefferson City; Robert B. Young, Rolla; Thomas B. Cook, Richmond; W. Alexander Hoja, Poplar Bluff; John L. Mothershead, St. Joseph; Louis P. Hetlage, Troy; Marshall B. Conrad, St. Louis (1969).

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Radiology and Ionizing Radiation—Harold B. Rapp, Cape Girardeau, Chairman (1969); Mark D. Eagleton, Clayton (1971); D. D. Anthony, Springfield (1971); Sam Merenda, St. Louis (1970); Wayne K. Tice, Independence (1970). **Associate Members**—Sidney Rubin, Kansas City; Joseph S. Summers, Jr., Jefferson City; Marvin F. Hall, Joplin; Wayne A. Simril, St. Louis.

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Legislative Matters—John I. Matthews, Jefferson City, Chairman; David N. Kerr, Clayton; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; Gerald L. Miller, Kansas City. **Associate Members**—Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; Arthur W. Neilson, St. Louis; Hector W. Benoit, Jr., Kansas City (1969).

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Industrial Health—John W. Berry, St. Louis, Chairman (1969); Paul J. Centner, Kansas City (1970); William L. Macon, St. Louis (1970); Van W. Taylor, Bonne Terre (1971); Richard A. Sutter, St. Louis (1969). **Associate Members**—Horace A. Lowe, Jr., Springfield; C. R. MeAdam, St. Louis; Grosvenor Roberts, Kansas City.

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Environmental Health—A. W. Neilson, St. Louis, Chairman; E. A. Stricker, St. James; Paul T. Luckenbill, Plattsburg; Horace A. Lowe, Jr., Springfield; Lloyd A. Hollinger, Kansas City (1969).

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Carlson, Arne E., St. Louis
Carlson, Hjalmar E., Kansas City
Carmichael, Francis A., Jr., Kansas City
Carmona, Gilberto V., University City
Carnell, B. M., Camdenton
Carnes, Victor M., Joplin
Carpenter, George T., St. Joseph
Carpenter, Wallace, Rockport
Carr, Archie D., St. Louis

Carr, G. Thomas, St. Louis
Carranza, Mauro J., St. Louis
Carrier, Edson C., Kansas Ctiy
Carrier, John A., St. Louis
Carrington, Howard W., Lebanon
Carroll, George A., St. Louis
Carroll, Grayson, St. Louis
Carroll, Percy J., Clayton
Carroll, Thomas W., Lamar
Carron, Joseph F., Arnold
Carron, Oscar A., Perryville
Carson, Richard A., St. Louis
Carter, Edwin E., Clayton
Carter, Howard, Hamilton
Carter, James R., Neosho
Carter, John F., St. Louis
Cartwright, Robert S., Columbia
Caruso, Alfred A., Kansas City
Cary, John M., St. Louis
Casady, Gilbert N., Kansas City
Case, William F., Kansas City
Casebolt, Buford T., Kansas City
Casey, Edwin J., St. Louis
Cash, Charles R., Kennett
Cason, Elbert H., St. Louis
Cassel, Melvin A., St. Louis
Castelaw, Rush E., Kansas City
Castillo, Michael E., Kansas City
Catalano, J. Denis, Pensacola, Fla.
(Member St. Louis Medical Society)
Catanzaro, Anthony F., St. Louis
Catanzaro, Francis J., St. Louis
Catanzaro, Marshall J., St. Louis
Catanzaro, Rudolph E., St. Louis
Cate, Thomas R., St. Louis
Cavanagh, Denis, St. Louis
Cavaness, Ernest W., Encinitas, Calif.
(Member Jackson County Medical Society)
Centner, Paul J., Kansas City
Chalkley, Judson I., Columbia
Challener, William A., III, St. Joseph
Chamberlain, Gilbert L., Boonville
Chambers, James Q., Jr., Kansas City
Chamness, James T., St. Louis
Chandler, Robert A., Kansas City
Chaplin, Hugh, Jr., St. Louis
Chapman, Charles L., Columbia
Chapman, David W., Independence
Chapman, Jean A., Cape Girardeau
Chapman, Samuel B., Kansas City
Charles, Benjamin H., St. Louis
Charles, Cecil M., Clayton
Charnas, Raymond M., St. Louis
Chase, Ned B., Jr., Joplin
Chastain, Charles W., Farmington
Cheek, Charles W., Columbia
Cheek, J. William, Springfield
Cheng, Alfred K., Wright-Patterson AFB, Ohio
(Member Jackson County Medical Society)
Chernoff, Selbert G., Kansas City
Cherre, Anthony J., St. Louis
Cherre, Charles J., St. Louis
Chesanow, Robert L., St. Louis
Chesney, George W., Joplin
Chiasson, E. Chaille, Columbia
Chieffi, Margaret, St. Louis
Childs, Donnalea S., Kansas City
Childs, Richard M., Kansas City
Chiles, David R., Smithville
Chinsky, Murray, St. Louis
Chou, Yen Ping, Koch
Christ, Martin H., St. Joseph
Christensen, Roger F., Louisiana
Christianson, Charles S., Mt. Vernon
Christy, Raymond A., Springfield
Chute, W. Deward, Moberly
Ciampa, Thomas, St. Louis
Ciapciak, Stanley J., St. Louis
Clark, Chester L., Trenton
Clark, Clarence L., St. Louis
Clark, Irving H., Kansas City
Clark, Kendall A., Jefferson City
Clarke, Michael J., Springfield
Clary, William F., Springfield
Claseman, Wilma W., St. Louis
Clasen, Arthur C., Miami Beach, Fla.
(Member Jackson County Medical Society)
Clawson, James W., Springfield
Clayton, Edgar L., Springfield
Cleary, Frank, St. Louis
Cleveland, Horace F., Long Beach, Calif.
(Member St. Louis Medical Society)
Clever, Henry W., Jr., St. Charles
Cline, Harold H., Piedmont
Cline, Merle A., Kansas City
Clisham, John F., Hannibal
Clithero, William H., Duarte, Calif.
(Member St. Louis Medical Society)
Cloyd, Mason D., St. Louis

Coates, Thomas A., St. Louis
Cobb, James R., Kansas City
Coben, Lawrence A., St. Louis
Coburn, Donald F., Kansas City
Cochran, Donald Q., Columbia
Cochran, Jo R., Cape Girardeau
Cochran, Thomas E., Jr., Springfield
Cochrane, Joseph J., Kansas City
Cockerell, Sanford F., Independence
Coffee, Amos L., Willow Springs
Coffey, Ralph R., Kansas City
Coffin, Ernest L., Lakeworth, Fla.
(Member St. Louis Medical Society)
Coffin, Theodore A., Kansas City
Coffman, Esther E. L., Lakeworth, Fla.
(Member Ozarks Medical Society)
Cohen, Benjamin H., Clayton
Cohen, Frank, St. Ann
Cohen, Harry K., Kansas City
Cohen, Hillard K., St. Ann
Cohen, Robert S., N. Y., N. Y.
(Member St. Louis Medical Society)
Cohle, Richard R., Carthage
Cohnberg, Rosellen E., Columbia
Cohrs, Clarence C., Moberly
Cokingtin, Leovigildo, Independence
Cokrhame, Jack, St. Louis
Colbert, Robert S., Sikeston
Coldwater, Kenneth B., St. Louis
Cole, William R., St. Louis
Colglazier, Mary C., Kansas City
Collantes, Jose L., Nevada
Coller, Frederick B., Springfield
Collins, Gretchen D., Macon
Collins, John M., St. Louis
Collodi, George A., Brentwood
Colom, George A., Kansas City
Colwill, Jack M., Columbia
Comeau, Richard A., Dexter
Comens, Phillip, St. Louis
Comens, Ruth C., St. Louis
Comer, J. Russell, Kansas City
Comerci, George D., St. Louis
Commerford, John F., St. Charles
Compton, James R., Costa Mesa, Calif.
(Member St. Louis County Medical Society)
Cone, Alfred J., Chesterfield
Connell, Evan S., Kansas City
Conrad, Adolph H., Jr., Clayton
Conrad, Joseph A., Chillicothe
Conrad, Marshall B., St. Louis
Conrad, Raymond C., Springfield
Cook, Galen B., Columbia
Cook, James R., Springfield
Cook, O. W., Caruthersville
Cook, Ralph L., St. Louis
Cook, Thomas B., Richmond
Cooper, Charles S., Kansas City
Cooper, Charles W., Jefferson City
Cooper, Claude W., Thayer
Cooper, Henry T., St. Louis
Cooper, John H., Kansas City
Cooper, Lawrence E., Ft. Myers, Fla.
(Member Pemiscot County Medical Society)
Cooper, Leo F., Kansas City
Cooper, Maurice E., Columbia
Cooper, R. Lee, Warrensburg
Cooper, Theodore, Bethesda, Md.
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Cooper, Thomas J., St. Louis
Cope, James C., Columbia
Cope, Joseph S., Lexington
Copher, Glover H., St. Louis
Coppinger, Thomas A., Kansas City
Corday, Robert J., St. Louis
Cordonnier, James K., Springfield
Cordonnier, Justin, St. Louis
Correnti, Nicholas A., St. Louis
Cortner, Mary C., Kansas City
Costa, Dominic V., St. Louis
Costello, Cyril J., St. Louis
Costello, Joseph P., Jr., Brentwood
Costen, William S., St. Louis
Costrino, Joseph A., St. Louis
Cotlier, Edward, St. Louis
Cottey, J. H., St. Charles
Coughlin, Bertrand D., St. Louis
Courter, Larry P., Kansas City
Cowdry, Edmund V., Jr., St. Louis
Cowherd, Joseph B., Kansas City
Cox, John P., St. Joseph
Cox, Kenneth E., Kansas City
Cox, Mary E., St. Louis
Cox, William A., Jefferson City
Cox, William L., Liberty
Coxe, William S., St. Louis
Cozart, Duane E., Chesterfield
Craig, Irwin T., Joplin
Craig, Owen W. D., St. Joseph
Craig, Richard O., St. Joseph

Crain, James W., Branson
Crawford, Archie L., Joplin
Crawford, Katherine J., University City
Crawford, Oral B., Springfield
Crawford, Robert M., Sullivan
Crayton, Billy G., Waverly
Creech, Joseph C., Troy
Crego, Clarence H., Jr., St. Louis
Cremer, William J., Fulton
Cresswell, George F., Potosi
Crews, Robert N., Fulton
Crider, Russell J., St. Charles
Criscione, James R., St. Louis
Criscione, James S., Scott A. F. Base, Ill.
(Member St. Louis County Medical Society)
Crispell, Lawrence S., Joplin
Critchlow, Wm. C., Sikeston
Crocker, Albert M., Kansas City
Crockett, James E., Kansas City
Croom, Dorwyn W., Malden
Crosby, Alice S., Columbia
Cross, Albert D., Trenton
Crossman, Robert W., Webster Groves
Crotty, John P., St. Louis
Crouch, F. Richard, Farmington
Crow, Martin L., Kansas City
Crowe, John T., Cape Girardeau
Crowell, Hugh C., St. Louis
Crozier, Franklin A., Richmond
Cuddihee, Robert E., Jr., St. Louis
Culbertson, William F., Kansas City
Culley, Thomas S., Columbia
Cullum, Albert G. J., Middlesboro, Ky.
(Member St. Louis County Medical Society)
Cunningham, Darral D., Springfield
Cunningham, E. J., Jr., Sterling Park, Va.
(Member St. Louis Medical Society)
Curiel, Manuel S., Kansas City
Curran, Desmond, Kansas City
Curts, Calvin J., Kansas City
Cutcliff, Daniel J., Kansas City
Cutler, Harold M., St. Louis
Cutler, Harry, St. Louis
Czebrinski, Edward W., St. Louis

D

Daake, John W., St. Louis
Dabbs, LeRoy, St. Louis
Dabbs, Wilbur D., Neosho
Dahm, Charles H., Jr., St. Louis
Dahms, Gustave, St. Louis
Daley, Frank R., Hamilton
Dalton, Arthur R., St. Louis
Dalton, Timothy T., Kansas City
Daman, George A., St. Louis
Dames, Richard J., St. Louis
Damron, Edward O., Elsberry
Damron, Oscar H., Warrensburg
Danforth, William H., St. Louis
Danis, Peter G., St. Louis
Danis, Richard K., St. Louis
Dankner, Arnold, Clayton
Dann, David S., Kansas City
Darnell, Thomas F. B., Columbia
Dash, Ira, St. Louis
Dash, Udaya N., St. Louis
Daughaday, William H., St. Louis
Daum, Harold F., Sedalia
Davault, George K., Richmond
Davidson, Kendrick C., Kansas City
Davidson, Morris, Clayton
Davie, Joseph, St. Louis
Davis, C. Braxton, Nevada
Davis, David, Columbia
Davis, David O., St. Louis
Davis, Donald R., Kansas City
Davis, Edgar W., St. Louis
Davis, Frank L., St. Louis
Davis, Herbert V., Kansas City
Davis, Jack M., Kansas City
Davis, John J., Overland Park, Kan.
(Member Jackson County Medical Society)
Davis, Kenneth A., Kansas City
Davis, Landis Y., Canton
Davis, Leonard L., Jr., Mexico
Davis, Martin W., St. Louis
Davis, Richard E., Kansas City
Davis, Robert C., Kansas City
Davis, Wilbur L., Charleston
Day, Anthony B., Marshall
Day, John K., Columbia
Day, Maxwell, St. Joseph
Deakin, Rogers, St. Louis
Dean, Francis D., Fayette
Dean, Lee W., Jr., St. Louis
Decker, Albert I., Kansas City
DeGenova, Gerald H., Ste. Genevieve
DeHovitz, Bernard, St. Louis
Deitchman, Robert B., St. Louis
De Jesus, Alberto, St. Louis

de la Torre, John J., Sullivan
Deles, Vincente D., Crystal City
DeMaria, Peter F., Kansas City
Demko, William, St. Louis
DeMott, John D., Kansas City
DeMotte, John A., Kansas City
Dempsey, Herbert A., Lee's Summit
Denk, Alan F., St. Louis
Denney, Richard W., Mountain Grove
Dennie, Charles C., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Denninghoff, James C., Columbia
Dennis, W. Paul, Flat River
Denny, Hubert M., Union
Demoncourt, John E., Smithville
DeTar, Burleigh E., Joplin
Dettmer, Robert F., Ironton
Deutch, Max, St. Louis
Devine, John B., St. Louis
Devine, Mark W., Jr., Kansas City
Devins, George S., Kansas City
Dewald, Paul A., St. Louis
DeWeese, Marion S., Columbia
Dewein, Edward G., St. Louis
Dexheimer, Frank R., Columbia
Deyton, John W., St. Louis
Dick, Earl, St. Louis
Dickerson, Omar B., Edgewood Arsenal, Md. (Member St. Louis Medical Society)
Dickler, Donald J., St. Louis
Diehr, Maurice A., St. Louis
Diekroeger, Manuel L., Boonville
Diemer, Peter A., Fairfax, Va. (Member St. Louis Medical Society)
Dierker, H. D., Lebanon
Dietrich, Karl D., Columbia
Dietz, M. Wendell, Springfield
DiLeo, Senatro W., Jennings
Dill, Foster A., Maplewood
Dillard, Burl M., St. Louis
Dillard, Erin M., Springfield
Dills, Joseph N., Springfield
Dinelli, Frank E., Poplar Bluff
Dinkins, James A., Cape Girardeau
Diveley, Rexford L., Kansas City
Dixon, John R., Brookfield
Dixon, Vewiser L., Kansas City
Dlabal, Luke J., Independence
Dmytryk, Eugene T., St. Louis
Doane, William L., Grandview
Dodd, Robert B., St. Louis
Dodge, Mark, Kansas City
Dodge, Milton, Shawnee Mission, Kan. (Member Jackson County Medical Society)
Dodson, Danny L., Monroe City
Doering, Robert W., Kansas City
Doggett, Sylvester, Sikeston
Doisy, Philip P., St. Louis
Doisy, Robert A., Glendale
Dolan, Daniel L., Springfield
Dolan, John T., Jr., St. Louis
Dolezal, Joseph B., Kansas City
Domke, Herbert R., St. Louis
Donaldson, Robert C., St. Louis
Donati, Robert M., St. Louis
Donegan, Judith H., Columbia
Donegan, William L., Columbia
Donley, Leo F., Jr., St. Louis
Donley, Robert R., Monett
Donnell, Harold E., De Soto
Donnell, Robert H., Crystal City
Donnell, Thomas A., DeSoto
Dorsch, Ervin H., Independence
Dorton, Robert K., St. Louis
Dovenmuehle, Robert H., Kansas City
Dowd, James F., Jr., St. Louis
Dowell, Donald M., Chillicothe
Dowell, J. Larry, Pattonsburg
Downey, James W., Kansas City
Doyle, Charles R., St. Louis
Doyle, Matthew J., Jefferson City
Drace, Charles C., Jr., St. Louis
Drake, Avery A., Rolla
Drake, Roy F., Kansas City
Drake, Truman G., St. Louis
Drake, William K., Collinsville, Ill. (Member St. Louis Medical Society)
Drake, William L., Jr., St. Louis
Draney, Thomas E., Kansas City
Draper, Bernard, Boonville
Drennan, James A., St. Louis
Drescher, Emmett B., St. Louis
Drews, Robert C., St. Louis
Drey, Norman W., St. Louis
Dreyer, Carl J., Webster Groves
Dreyer, Philip V., Huntsville
Dreyer, William F., Houston
Drisko, Robert M., Kansas City
Drowns, Bruce V., Kansas City
Dubuque, Theodore J., Jr., St. Louis
Duden, Charles W., St. Louis
Duemler, John H., St. Louis
Duemler, Robert H., St. Louis
Duer, Mildred C., Kansas City
Duffy, Francis G., St. Louis
Duffy, Oliver F., Trenton
Dugas, Henry C., St. Louis
Duggan, John J., Jr., Kirkwood
Dulick, Michael, Brentwood
Duling, Gerald J., St. Charles
Dumonceaux, Leonard J., St. Louis
DuMont, Clement C., St. Joseph
DuMontier, R. J., O'Fallon
Dunaway, Howard A., Sikeston
Duncan, Robert D., Springfield
Duncan, Wm. H., Kansas City
Dunham, Robert H., N. Kansas City
Dunleavy, James D., Kansas City
Dunmire, George Q., Kennett
Dunn, Robert E., St. Louis
Dunshee, Robert E., Maryville
Durnell, Monaford D., Lee's Summit
Durr, Jon W., Florissant
Durst, Henry, Fulton
Dworkin, Saul, St. Louis
Dwyer, Frank X., Kansas City
Dwyer, Hugh L., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Dwyer, Thomas L., Mexico
Dyer, Dallas J., St. Louis

E

Eades, Dee W., St. Louis
Eagleton, Mark D., Clayton
Eanet, Morton P., Kansas City
Earp, Ralph K., St. Louis
Eastwood, Robert A., Springfield
Ebel, Eugene H., St. Louis
Eber, Carl T., St., Louis
Eberle, John P., St. Louis
Eberle, Vincent L., St. Louis
Echterhoff, Harry R., St. Louis
Eck, Birkle, St. Louis
Ecker, Decider, Pacific
Eckert, Clarence T., St. Louis
Ecklund, Archibald M., San Diego, Calif. (Member St. Louis Medical Society)
Ector, Henry J., Mexico
Edde, Clifford G., Kansas City
Edele, Eugene H., St. Louis
Edelman, Alan H., St. Louis
Edwards, D. R., Sedalia
Edwards, Francis L., Monett
Edwards, Joseph C., St. Louis
Edwards, Theodore F., Kansas City
Edwards, Waldo B., Kirkwood
Efron, Joseph, St. Louis
Egan, Robert C., St. Louis
Egan, Thomas F., St. Louis
Eggers, George W. N., Jr., Columbia
Eggleston, Donald E., Macon
Eggleston, Thomas F., St. Louis
Eidelman, Jack R., St. Louis
Eigel, Edwin G., St. Louis
Eimer, Charles E., St. Louis
Eisemann, Gustave, Kansas City
Eisenmann, Benjamin P., New Haven
Eisenstein, Albert B., St. Louis
Ekern, H. Peter, Mexico
Eklund, Alfred W., Pleasant Hill
Eldenburg, Donald, Sedalia
Elders, Frank A., Jr., Cuba
Eldridge, Charles J., Kansas City
Elias, David J., Independence
Eliasson, Sven G., St. Louis
Eliscu, Juliette, Joplin
Elkins, Ronald F., Springfield
Eller, C. Howe, Clayton
Ellersieck, Dorothy M., St. Louis
Ellett, William H., Appleton City
Elliott, Raymond G., Kansas City
Elliott, Wade E., Kansas City
Ellis, Burnett E., Gideon
Ellis, Calvin C., St. Louis
Ellis, Francis J., Springfield
Ellis, Harry L., Springfield
Ellison, Leroy E., Maplewood
Ellsasser, James C., Hinsdale, Ill. (Member St. Louis Medical Society)
Ellsworth, Willard, Cainsville
Elrod, Dennis B., Cape Girardeau
Elser, Otto H., Independence
Elson, Julius, Ladue
Emerson, Reynolds L., St. Louis
Emmert, Fred, St. Louis
Engel, Lawrence P., Kansas City
Engelhardt, Robert C., Poplar Bluff
Engelking, David F., Kansas City
Engelmann, Calvin E., Kansas City
English, Milton T., Jr., Kirksville
English, Wallace D., Cardwell
Engman, Martin F., Jr., St. Louis
Enloe, L. David, Jefferson City
Epp, George J., St. Louis
Epple, Kathryn C., Mexico
Epple, Lawrence K., Mexico
Ernst, Edwin C., St. Louis
Ernst, Edwin C., Jr., St. Louis
Ernst, Joseph G., St. Louis
Ernst, Richard E., St. Louis
Ernst, Roland P., St. Louis
Eshelman, Albert D., Independence
Esslinger, Arthur T. J., St. Louis
Estes, Albert M., Cape Girardeau
Estes, Jack M., Ferguson
Esther, John R., Joplin
Etienne, Robert B., St. Louis
Eto, Jackson, St. Louis
Eubank, David F., Kansas City
Eubank, Dillard M., Raytown
Eubank, William R., Kansas City
Eubank, William Y., Kansas City
Evans, Ezra L., Jr., Springfield
Evans, Harry T., Branson
Evans, Lawrence L., Kansas City
Eversoll, Norton J., Hollywood, Fla. (Member St. Louis County Medical Society)
Exon, C. Stuart, Jefferson City
Eyermann, Charles H., St. Louis
Eyermann, Edward L., Jr., St. Louis
Eyermann, H. Walter, Warrenton

F

Fair, William L., Chillicothe
Fairchild, James F., Perryville
Fairshter, Alex E., St. Louis
Fakhoury, Donald A., Kansas City
Falk, O. P. J., St. Louis
Fallet, Charles E., DeSoto
Fallon, Richard H., St. Louis
Farley, Claude C., Kansas City
Farley, Wm. M., St. Louis
Farmer, Norma D., Farmington
Farney, Jacob P., Kansas City
Farnham, Milo M., Independence
Farnsworth, Jesse J., Kansas City
Farrar, Charles B., Cape Girardeau
Farrell, Robert J., St. Louis
Farrell, S. L., Washington
Farthing, Fred R., Springfield
Farthing, Gene W., Springfield
Feierabend, Frank L., Kansas City
Feind, Earl E., Rolla
Feinstein, Leon A., St., Louis
Feist, George V., Kansas City
Feldaker, Robert M., St. Louis
Felder, James P., St. Charles
Feldman, David, St. Louis
Felix, Robert H., St. Louis
Feller, Harold H., St. Louis
Fellhauer, Carl M., St. Louis
Feltz, Lawrence W., Perryville
Ferguson, Donald S., Kansas City
Ferguson, John L., Springfield
Ferguson, John P., Jr., Springfield
Ferguson, L. H., Jr., Joplin
Ferguson, Luther J., St. Joseph
Ferguson, Ralph L., Joplin
Ferguson, Robert M., Webb City
Ferguson, Thomas B., St. Louis
Ferguson, Wilson J., Sikeston
Ferneau, James E., Columbia
Ferrara, John P., St. Louis
Ferrell, Thomas E., Jr., Springfield
Ferris, Carl R., Kansas City
Ferro, Anthony L., St. Louis
Ferry, Richard J., St. Louis
Finger, Donald H., St. Louis
Fingerhood, Marvin G., St. Louis
Fingert, Hyman H., St. Louis
Fink, LeRoy L., Florissant
Finkel, Barney W., St. Louis
Finkle, Robert H., Independence
Finley, Freeman L., St. Louis
Finn, Murray E., St. Louis
Finnegan, Joseph V., St. Louis
Finney, William O., Chaffee
Fischer, Edward H., N. Kansas City
Fischer, Erich, St. Louis
Fischer, Theodore, Altenburg
Fischer, Thomas J., Hannibal
Fish, Virgil O., St. Louis
Fisher, Joseph L., St. Joseph
Fisher, Stanley D., Sedalia
Fitch, C. H. Max, Springfield
FitzGerald, Leo P., St. Louis
Fitzgerald, Robert H., Kansas City
Fitzgerald, William T., St. Louis

Flance, Israel J., St. Louis
Flanders, Virgil E., Kansas City
Flanigan, George D., Jr., St. Louis
Flatley, John A., Kansas City
Flavan, David B., St. Louis
Fleishman, Alfred, University City
Fleming, J. Will, Moberly
Fleming, Paul D., St. Louis
Fleming, Robert J., St. Charles
Fleming, Royall B., Kansas City
Fleming, Thomas S., Moberly
Fletes, James W., St. Louis
Florian, Albert J., Tucson, Ariz.
(Member Jackson County Medical Society)
Flotte, Bernard H., St. Louis
Flotte, Sylvester A., Jennings
Flynn, Edward P., St. Louis
Flynn, James M., Kansas City
Flynn, John T., St. Louis
Flynn, Joseph E., St. Louis
Flynn, Thomas T., St. Louis
Fogerson, Virginia L., Springfield
Fogg, Gary R., Fresno, Calif.
(Member St. Louis Medical Society)
Folck, William P., Kansas City
Folkner, A. L., Warrensburg
Ford, Lee T., Jr., St. Louis
Ford, William, Farmington
Foreman, Phillip B., Hannibal
Forgrave, John R., St. Joseph
Forgrave, Leon P., St. Joseph
Forman, George W., St. Joseph
Forman, Louis H., Kansas City
Forsen, James A., Gower
Forsman, Waldo W., Jr., St. Louis
Forster, Armand C., St. Louis
Forsyth, B. Todd, St. Louis
Forsythe, Robert W., Kansas City
Forti, John J., St. Louis
Foster, Jack L., Desloge
Fotopoulos, Chris K., North Kansas City
Fouts, Dallas B., Sr., Independence
Fowler, Fred D., Kansas City
Fowler, I. Charles, N. Kansas City
Fowler, James W., Kansas City
Fowler, Marvin L., West Plains
Fox, Leon J., St. Louis
Fox, Robert E., St. Louis
Frame, Homer G., Cabool
Francis, William C., Springfield
Francka. W. Frank, Hannibal
Frank, Alvin R., St. Louis
Franklin, Curtis U., Kansas City
Franklin, Harold A., St. Louis
Franklin, Max S., St. Louis
Fraser, Richard A., Kansas City
Frawley, Thomas F., St. Louis
Frazier. Robert L., Charleston
Frech. Robert S., St. Louis
Fredeen, Robert C., Kansas City
Frederick, Raymond O., St. Louis
Freedman, Aaron D., Kansas City
Freedman, Harold, St. Louis
Freedman, Ruth S., St. Louis
Freeman, David M., St. Louis
Freeman, Spencer L., Kirksville
Freiheit, Harold J., St. Louis
Freiman, S. Michael, St. Louis
Freimuth, L. E., St. Louis
Frein, Donald E., Leeton
Frerking, Herbert W., St. Louis
Freund, Samuel J., St. Louis
Frick, John P., Kansas City
Friedman, Bernard, St. Louis
Friedman, Ira J., St. Louis
Friedman, Morris L., Kansas City
Friedman, Paul L., St. Louis
Friedman, Robert H., St. Louis
Friedrich, Ernst R., St. Louis
Fries, Armand D., St. Louis
Fries, John W., St. Louis
Friskel, Arthur K., St. Louis
Fritsch, Andrew J., Joplin
Fritzlen, Thomas J., Kansas City
Froelich, Edwin J., Lebanon
Froelich, R. W., Lebanon
Froelich, Robert E., Columbia
Frumson. Guy H., St. Louis
Fryer, Minot P., St. Louis
Fuchs, George J., Barnett
Fuchs, George J., Jr., Columbia
Fuhrman, Donald L., Kansas City
Fujita, Milton T., St. Louis
Fulkerson, Wilbur E., Higginsville
Fulks, Richard B., California
Fullgrabe, Emil A., Jefferson City
Fulton, Albert E., Kansas City
Funsch. Robert E., St. Louis
Furla, Gus J., St. Louis
Furlow, Leonard T., Crystal River. Fla.
(Member St. Louis Medical Society)
Fury, Tex E., Kansas City
Fuson, Levi H., St. Joseph
Fuson, William A., Trenton

G

Gaffney, Caldwell J., St. Louis
Gafney, George T., St. Louis
Gagliardo, Joseph, St. Louis
Gaines, Quentin M., Kirkwood
Gainey, Harold L., Kansas City
Galbol, Harley, Excelsior Springs
Galbreath, Ashford M., Kansas City
Gale, Arthur H., Overland
Gale, Joseph F., Chillicothe
Gale, Philip R., St. Louis
Galeota, William R., Columbia
Galinsky, Leon J., Mt. Vernon
Gall, Ira, St. Louis
Gallagher, Lionel M., California
Gallagher, Neil I., St. Louis
Gandlmayr, Jack M., St. Louis
Ganley, William C., Kansas City
Gansloser, Wilbert M., Clayton
Gantner, George E., Jr., St. Louis
Gantt, Ernest S., Jr., Mexico
Gantz, John A., Affton
Garb, Solomon, Columbia
Garcia, Charles L., Mexico
Gard, Raymond F., Independence
Gardner, Joseph W., Reeds Spring
Garfinkel. Bernard T., St. Louis
Garner, G. Josephine, Kansas City
Garner, Lynn M., Jefferson City
Garrett, Glen H., Columbia
Garrison, Roy F., Kansas City
Garrison, T. W., Camdenton
Gary, George, Marceline
Gaskins, Charles W., Ironton
Gaskins, John H., Kansas City
Gaston, Lamont W., St. Louis
Gauer, Robert J., Kansas City
Gaunt, Frank P., Webster Groves
Gaunt. William D., Columbia
Gay, Andrew J., St. Louis
Gay, Elizabeth K., Florissant
Gay, George R., San Francisco, Calif.
(Member Greene County Medical Society)
Geaihart, Merriam, Bethany
Gearhart, Wilbur H., St. Louis
Gedney, William B., Valley Park
Geha, Braham J., Kansas City
Geiger, William A., Jr., Kansas City
Geise, August W., Jr., St. Louis
Geisler, Gerald F., Dallas, Texas
(Member St. Louis Medical Society)
Gempel, Paul A., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Gentry, Enoch N., Jr., Kansas City
Gentry, Marvin C., Ava
Gentry, Merritt L.. Jefferson City
Gentsch, Kenneth W., Petersburg, Va.
(Member St. Louis Medical Society)
German, Walter A., Jr., Springfield
Germuth, Frederick G., Jr., St. Louis
Gernstetter, Sangwill L., Poplar Bluff
Gerst, Aloysius C., St. Louis
Gibson, David M., Kansas City
Gibson, Helen F., St. Louis
Gibstine, Marvin H., St. Ann
Giddings, Frank C., Springfield
Giem, Ross N., Sullivan
Gieselman, Ralph V., St. Louis
Giesler, Donald H., Osceola
Gildea, Edwin F., St. Louis
Gildea, Margaret C. L., St. Louis
Gilden, Jerome J., St. Louis
Gilfillan, Earl E., Memphis
Gilkey, Harry M., Kansas City
Gillen, Billy A., Kansas City
Gillespie, William J., St. Louis
Gilliland, Charles E., Cameron
Gillispie. Roy, Branson
Gilpin. Doris C., St. Louis
Ginardi, Donald E., Kansas City
Ginsberg, Norman A., Kansas City
Gish, Rutledge, Fulton
Gist, William W., Kansas City
Gitt. Joseph J., St Louis
Gladney, John H., St. Louis
Glasgow, David S., Crystal City
Glass, Robert L., Carlsbad, Calif.
(Member Pettis County Medical Society)
Glass, William J., Jr., Monett
Glassberg, Bertrand Y., St. Louis
Glasscock, Ernest L., Kansas City
Glenn, Elmer E., Springfield
Glennon, William P., St. Louis
Glick, Harry N., St. Louis
Glover, Kenneth, Mt. Vernon
Glynn, Robert R., Springfield
Gnade, Albert J., St. Louis
Goebel, Joan M., St. Louis
Goell, Robert S., St. Louis
Goldberg, Isadore E., Braymer
Goldenberg, Sidney, St. Louis
Goldenson, Max J., St. Louis
Goldfarb, Alvin, St. Louis
Goldkamp, John D., St. Charles
Goldman, Alfred, St. Louis
Goldman, Arnold M., St. Louis
Goldman, Hyman J., St. Louis
Goldman, Melvin L., St., Louis
Goldman, Stanley L., Kansas City
Goldsich, Edward, Kansas City
Goldstein, Bernard, St. Louis
Goldstein, Marcy A., St. Louis
Goldstein, Marvin F., Kansas City
Goldstein, Phillip J., St. Louis
Gollub, Samuel W., St. Louis
Gomez, Cesar A., Jr., St. Louis
Gonser, Karl B., Sedalia
Gonzalez, M. Garza, Warrensburg
Goodman, J. N., Hardy, Arkansas
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Goodman, LeRoy, Kansas City
Goodman, Nathaniel, St. Louis
Goodrich, Harold A., Webster Groves
Goodson, Wm. H., Jr., Kansas City
Goolsbee, Robert L., Kansas City
Gordon, James S., Jefferson City
Gordon. Morris P., Kansas City
Gore, Glenn L., St. Charles
Gorelick, David F., Springfield
Gorla, Wayne O., St. Louis
Gorrell, Ned B., Kansas City
Gose, Don F., Springfield
Gottsch, Joseph C., Kansas City
Grabau, Gene H., St. Louis
Grable, James D., Portageville
Grabske, Charles F., Independence
Grabske, Charles F., Jr., Independence
Graeser, Richard G., St. Louis
Graff, Ralph J., St. Louis
Graham, James W., Kansas City
Graham, Patrick G., Kansas City
Graham, Wallace H., Kansas City
Graneto. Joseph A., St. Louis
Grant, Alhert J., Hannibal
Grant, Claude S., St. Joseph
Grant, John M., St. Louis
Grant, Neville, St. Louis
Grant, Samuel B., St. Louis
Graul, Elmer G., St. Louis
Graul, Walter P., St. Louis
Graves, Arthur J., Mt. Vernon
Gray, Walter C., St. Louis
Greaney, John F., St. Louis
Grebel, Clement B., St. Louis
Green, J. Richard, Independence
Green, Manuel E., St. Louis
Green, Stanley L., Independence
Green, William L., St. Louis
Green, William R., St. Louis
Greenberg, Charles, Los Angeles, Calif.
(Member Buchanan County Medical Society)
Greene, Harry L., Hannihal
Greene, W. Wallace, Kansas City
Greenman, Marshall B., Clayton
Gregory, Ralph W., Kansas City
Gresick, Robert J., St. Louis
Griege, Charles W., Florissant
Griffin, Donald R., Columbia
Griffin, Evelyn, Buffalo
Griffin, Olin A., Jr., Buffalo
Griffin, William T., Columbia
Griffith, John A., Jr., Kansas City
Griffith, John K., Arnold
Griggs, James Y., St. Louis
Grim, Edward M., Kirksville
Grimes, Manning E., St. Joseph
Grindon, Joseph B., St. Louis
Groce, George, Fulton
Gronau, Axel R., St. Louis
Grossman, Marvin, Fredericktown
Grove, Gulp W., Knobnoster
Growdon, John A., Kansas City
Grubb, Paul H., Joplin
Grueb, Paul M., St. Louis
Gruenfeld, Gerhard E., St. Louis
Grunberg, Emile, Columbia
Grundmann, William H., St. Louis
Guastello, Mario J., Portsmouth, Va.
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Gubin, Alan S., Caruthersville
Guccione, Joseph B., St. Louis
Guhleman, Henry V., Jr., Jefferson City

Guldner, Edmond, Lamar
Gulick, Charles R., St. Louis
Gullett, Charles C., Kansas City
Gummels, Belmont B., St. Louis
Gundle, Sigmund, Kansas City
Gunn, Jack, Versailles
Gunn, Richard W., Kansas City
Gunn, Walter T., St. Louis
Gunter, Joe S., St. Joseph
Gurnee, Landon H., Jefferson City
Guze, Samuel B., St. Louis

H

Habib, Henry N., Kansas City
Hackett, Paul R., St. Louis
Hackmeyer, Rubin, St. Louis
Haddock, James N., Webster Groves
Haftner, Heinz, St. Louis
Hagan, Daniel J., St. Louis
Hagar, David L., Kansas City
Hagebusch, Omer E., St. Louis
Hagemann, Paul O., St. Louis
Haggen, Margaret E., Kansas City
Haight, John M., Kansas City
Haith, Edward E., Kansas City
Haith, Walter F., Kansas City
Hall, David G., Columbia
Hall, David W., Springfield
Hall, Durward G., Springfield
Hall, Eugene W., Ferguson
Hall, Frank W., Cape Girardeau
Hall, James W., Kansas City
Hall, Lee A., Clayton
Hall, Marvin F., Joplin
Hall, Preston C., St. Louis
Hall, Ralph R., Kansas City
Hall, Robert A., St. Louis
Hall, Thomas B., Arrow Rock
Hall, William K., St. Louis
Hallaba, M. A. S., Joplin
Halloran, Mark J., St. Louis
Halperin, Phillip H., Kansas City
Halpern, Lawrence K., St. Louis
Hamel, Herbert A., Kansas City
Hamill, Robert W., Kansas City
Hamilton, Caldwell K., Creve Coeur
Hamilton, Eugene G., Clayton
Hamilton, Eugene H., Joplin
Hamilton, William P., Aurora
Hamlin, Wyeth, Hannibal
Hammes, Roman E., St. Charles
Hammler, Christiana V., St. James
Hammond, David T., St. Louis
Hammond, John J., St. Louis
Hampton, Henry E., St. Louis
Hampton, Oscar P., Jr., St. Louis
Hampton, Stanley F., St. Louis
Hamtil, Lawrence W., Kansas City
Hanan, Ernest B., Springfield
Handler, Eric, St. Joseph
Handler, Fred P., Jefferson City
Hanes, Lee D., Kansas City
Hanes, Robert L., Kansas City
Hankin, Norman M., St. Louis
Hanlon, C. Rollins, St. Louis
Hanlon, Russell C., St. Charles
Hanna, Fikri M., Columbia
Hanna, Hugh A., Warrensburg
Hanna, Richard E., St. Louis
Hannas, Raymond R., Jr., Kansas City
Hansbrough, Eugene T., Poplar Bluff
Hansel, French K., St. Louis
Hansen, Arthur L., Butler
Hanser, S. Albert, St. Louis
Hanser, Theodore H., St. Louis
Hanss, Armand W., Springfield
Hantman, Stephen L., Bridgeton
Hardacre, Ruth A., Kansas City
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Hardy, Joseph A., Jr., St. Louis
Hardy, Patrick J., Florissant
Hardy, Samuel W., St. Louis
Hardy, Stanton L., Desloge
Harell, Alex, St. Louis
Harford, Carl G., St. Louis
Harkins, William B., St. Louis
Harkness, Harry, Warrensburg
Harland, Robert E., Ironton
Harless, Morris S., Kansas City
Harlow, Lloyd M., Kansas City
Harmon, Ben C., Springfield
Harms, Florian L., Salisbury
Harned, Bert W., Kansas City
Harner, Casper G., St. Joseph
Harper, Fleming B., St. Louis
Harrell, Henry J., Summerfield, Fla. (Member Dallas-Hickory-Polk County Medical Society)
Harrin, William R., Kansas City
Harris, A. Basil, St. Louis
Harris, Boyd L., San Diego, Calif. (Member Jackson County Medical Society)
Harris, Charles W., St. Louis
Harris, Hugh S., Jr., Columbia
Harris, Robert J., Columbia
Harris, Solon P., St. Louis
Harrison, Lee B., St. Louis
Hart, L. Wayne, Kansas City
Hart, Martin M., Salem
Hart, William M., Columbia
Harting, Hugh R., St. Louis
Hartman, Paul T., St. Louis
Hartnett, Leo J., St. Louis
Hartstein, Jack, University City
Hartwig, Frederick H., Kansas City
Hartwig, John A., St. Louis
Hartwig, Raymond W., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Harvey, Harold D., Springfield
Harwell, J. Larry, St. Louis
Harwell, J. Lester, Poplar Bluff
Hasek, James A., Mountain Grove
Hasek, O. Martin, Mountain Grove
Hasenmueller, James J., St. Louis
Hash, Helen E., Kansas City
Hashinger, Edward H., La Jolla, Calif. (Member Jackson County Medical Society)
Hasselblad, Oliver W., New York, New York (Member North Central Medical Society)
Hasson, Robert, Moberly
Hata, Daikichi, Boonville
Hatfalvi, Bela I., St. Louis
Hauptmann, William L., St. Louis
Hausheer, Herman J., Independence
Haw, Marvin T., Jr., Columbia
Hawk, Bray O., St. Louis
Hawker, William D., St. Louis
Hawkins, George L., Jr., St. Louis
Hawkins, Lee W., Chesterfield
Hayden, Loyola F., St. Louis
Hayek, Wesley E., St. Louis
Hayes, Lawrence L., Kansas City
Hayes, Paul W., St. Joseph
Haynes, James W., St. Louis
Haynes, Pugh, Jr., St. Louis
Haynes, Robert C., Marshall
Haynes, Solon E., Kansas City
Haynie, William W., Butler
Hazen, Robert M., Kansas City
H'Doubler, Charles E., Springfield
H'Doubler, Francis T., Jr., Springfield
H'Doubler, Peter B., Springfield
Headrick, John A., St. Louis
Hecker, Joseph E., Poplar Bluff
Hedges, Richard C., Excelsior Springs
Heeb, Max A., Sikeston
Heideman, Milo L., St. Louis
Heidenreich, Harry L., St. Louis
Heifetz, Carl J., St. Louis
Heilman, Edward J., Kansas City
Hein, Paul A., Jr., St. Louis
Heins, James N., St. Louis
Helbing, Edward J., Alameda, N. M. (Member St. Louis County Medical Society)
Hellerstein, Stanley, Kansas City
Hellweg, Charles E., Mt. Vernon
Hellweg, Raymond W., St. Louis
Helm, James O., New Florence
Helman, Richard G., Kansas City
Henderlite, John W., St. Louis
Hendin, Aaron, Olivette
Hendren, Glenn W., Liberty
Hendren, Thomas H., Kansas City
Henke, Charles F., St. Louis
Hennelly, John J., St. Louis
Henry, Clarke Latta, Kansas City
Henschel, Eugene V., St. Louis
Herbert, Charles T., Cape Girardeau
Herman, Allen I., St. Joseph
Herman, Morris, St. Louis
Hernandez, Salvadore, St. Louis
Herrman, George V., Kansas City
Hershey, Falls B., Kenilworth, Ill. (Member St. Louis County Medical Society)
Hertel, Ronald C., St. Louis
Herzog, Godofredo M., Florissant
Hetlage, Louis P., Troy
Heusler, Anton F., St. Louis
Heutel, Lee B., Ballwin
Heyer, Oscar C., St. Louis
Hibbard, Blaine Z., Kansas City
Hickerson, William H., Independence
Hickey, Glenn M., St. Louis
Hickey, James L., St. Louis
Hickey, Robert F., St. Louis
Hicks, Robert S., St. Louis
Higgins, Philip C., St. Louis
Higgins, Robert S., Kansas City
Hilbert. Paul H., St. Louis
Hildreth, H. Rommel, St. Louis
Hill, Jack H., Kansas City
Hill, James E., Fulton
Hill, XaCadene A., St. Louis
Hilliard, Alphonso W., St. Louis
Hilton, Paul E., Kirksville
Hinds, R. David, Hannibal
Hink, Frederick W., Independence
Hirsch, Joe E., Kansas City
Hite, Dennis E., Lebanon
Hoadley, William D., Kansas City
Hoard, Joseph W., Webster Groves
Hobbs, John E., St. Louis
Hoctor, Emmett F., Farmington
Hodge, Robert H., N. Kansas City
Hodgson, Frank H., Kansas City
Hoech, George P., Jr., Kansas City
Hoelscher, Harold F., Warrenton
Hoeper, Samuel D., Grandview
Hoffman, Jacob S., Kansas City
Hoffmann, Augustin D., St. Louis
Hoffmann, R. Lee, Prairie Village, Kan. (Member Jackson County Medical Society)
Hoffmann, Ronald E., St. Louis
Hofstatter, Leopold, Affton
Hofstatter, Lilli, St. Louis
Hogan, Cornelius E., St. Louis
Hogan, Daniel F., Brownsville, Texas (Member Jackson County Medical Society)
Hogan, John R., St. Louis
Hogan, Patrick C., St. Louis
Hogancamp, Charles E., St. Louis
Hogancamp, Glenn E., Ballwin
Hogeboom, George W., Delray Beach, Fla. (Member Greene County Medical Society)
Hogue, Frank S., Kansas City
Hoja, W. Alexander, Poplar Bluff
Holbrook, Charles K., St. Louis
Holcomb, John K., Cape Girardeau
Holemon, R. Eugene, St. Louis
Holland, Robert D., Springfield
Holley, Donald B., Camdenton
Hollinger, Lloyd A., Kansas City
Hollingsworth, Ray S., Clinton
Hollis, Richard W., Springfield
Hollo, Vencel W., St. Louis
Holloway, Robert B., St. Louis
Hollweg, Kenneth C., Kansas City
Holmes, Daniel E., Springfield
Holmes, David R., Springfield
Holscher, Edward C., St. Louis
Holt, Earl P., Jr., St. Louis
Holt, Waldo S., Kansas City
Holt, William E., St. Louis
Holton, Edward B., Independence
Holtz, Alan S., St. Louis
Holtz, Sumner, St. Louis
Holtzman, Samuel, Joplin
Hook, Waller G., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Hoover, Bernard L., St. Louis
Hoover, H. Lee, Jr., Springfield
Hopkins, Florian G., Gideon
Hopkins, James P., Kansas City
Hopkins, Thomas J., Sedalia
Hopkins, T. Spencer, Sedalia
Hornback, Edward R., Joplin
Horner, Glennon A., Columbia
Horner, John L., St. Louis
Hornstra, Robijn K., Kansas City
Horton, James D., Springfield
Horwitz, Irwin B., St. Louis
Hosto, Leland E., St. Louis
Houck, Russell M., Kecoughtan, Va. (Member Clay County Medical Society)
Houston, Vincent T., St. Louis
Howden, Thomas L., St. Joseph
Howe, Albert L., St. Louis
Howe, Louis F., St. Louis
Howell, Billy D., Brookfield
Hoxworth, Gerald M., Cape Girardeau
Hubbard, Sally L., Higginsville
Hubbell, Ira G., Columbia
Huber, Erwin T., St. Louis
Huber, K. Herbert, Richmond
Huber, Lasley E., Moberly
Huck, Frank F., Fenton

Huck, Richard F., St. Louis
Huckstep, Robert A., Farmington
Hudgens, Richard W., St. Louis
Huggins, Albert M., St. Louis
Hughes, Judson M., Columbia
Hughes, Robert G., St. Louis
Hughes, Shelby B., Clinton
Hulbert, Bernard, St. Louis
Hulstra, Johannes F. W., Springfield
Hummel, Anton J., St. Louis
Hummel, William C., Denver, Colo.
(Member St. Louis Medical Society)
Humphrey, James, Mound City
Humphreys, Edward T., Boonville
Hungate, Carroll P., Kansas City
Hunleth, Frank E., St. Louis
Hunt, John L., Campbell
Hunt, John W., Jr., Farmington
Hunt, Thomas R., Kansas City
Hunter, Martin P., Kansas City
Hunzicker, Warren J., Kansas City
Hurd, James R., St. Charles
Hurst, Ben B., Cameron
Hurst, Wilfred W., Joplin
Hurwitt, Frank, Kansas City
Husted, George W., Parma
Hutchinson, James H., Jr., St. Louis
Hutchinson, William B., St. Louis
Hutto, A. Herman, St. Louis
Hyde, Lawrence L., Shawnee Mission, Kan.
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Hyman, Anna, St. Louis

I

Ibaviosa, Alfred C., Crystal City
Ide, Carl H., Columbia
Ide, Lucien W., St. Joseph
Imes, Elvin D., Maryville
Ingham, Walton C., Kansas City
Inkley, John J., St. Louis
Irick, Carl C., Naples, Fla.
(Member St. Louis County Medical Society)
Irvin, William M., St. Louis
Irvine, John W., Kansas City
Irwig, Fred, Kansas City
Isbell, Charles H., Carthage
Ise, Frank H., Kansas City
Isom, Waldo B., Knox City
Ittner, George W., Jr., St. Louis
Ivy, Henry B., Springfield
Izmirlian, Grant, St. Louis

J

Jackson, Edward K., Clarksville
Jackson, Haywood R., Kansas City
Jackson, Robert L., Columbia
Jackson, Vernon B., Fulton
Jackson, William R., Maryville
Jacob, Karl A., Jr., St. Louis
Jacob, Walter P., Kansas City
Jacobs, Charles C., St. Louis
Jacobs, Frederick A., St. Louis
Jacobs, Morton, Kansas City
Jacobs, Walter H., Kansas City
Jacobsohn, Warren Z., St. Louis
Jaeger, Joseph N., Jackson
James, Otis E., Jr., Kansas City
Jameson, James E., Springfield
Jamison, Rex L., St. Louis
Janney, James G., Jr., St. Louis
Jansen, Robert, Kansas City
Jaudon, Joseph C., Clayton
Jean, J. Ted, St. Louis
Jeans, Virgil, Joplin
Jenab, Morteza, Kansas City
Jennett, James H., Kansas City
Jensen, Joshua E., Florissant
Jick, Sidney, St. Louis
Jimenez, Jose, St. Joseph
Joffe, Irwin, Paragould, Ark.
(Member Dunkin County Medical Society)
Johnson, C. Laurence, Kansas City
Johnson, Charles S., Warrensburg
Johnson, Dallas A., Kansas City
Johnson, Earl W., Cape Girardeau
Johnson, George A., Springfield
Johnson, George L., Ft. Benning, Ga.
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Johnson, Grover C., Marthasville
Johnson, James S., Kansas City
Johnson, Joseph E., Kansas City
Johnson, Lanny L., Okemos, Mich.
(Member St. Louis Medical Society)
Johnson, Leonard W., Leavenworth, Kan.
(Member Platte County Medical Society)
Johnson, Maurice N., St. Louis
Johnson, Mitchell D., Ferguson
Johnson, Morris B., Grandview
Johnson, Richard E., Columbia
Johnson, Roy, Ferguson
Johnson, Thomas M., Kansas City
Johnson, Warford B., Springfield
Johnson, William A., Kansas City
Johnson, William F., Springfield
Johnston, Joseph L., Springfield
Johnstone, John, Jr., Kirkwood
Johnstone, Paul N., Kansas City
Jolly, Benjamin N., Mexico
Jolly, William H., Mexico
Jonas, Harry S., Jr., Independence
Jones, Andrew B., Soddy, Tenn.
(Member St. Louis Medical Society)
Jones, Augustin, St. Louis
Jones, Dorothy J., St. Louis
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Jones, Gale O., Kansas City
Jones, Grey, St. Louis
Jones, Harold L., Springfield
Jones, James B., St. Louis
Jones, James H., St. Louis
Jones, John B., Columbia
Jones, Keith D., Warrensburg
Jones, Marion E., Kansas City
Jones, Otey S., St. Louis
Jones, Richard A., St. Louis
Jones, Samuel T., III, Kansas City
Jones, Theodore R., Kansas City
Jones, Victor, Brentwood
Jones, Vincent L., St. Louis
Jordan, Edward J., St. Louis
Jordan, Walter R., Barnhart
Jorstad, Louis H., St. Louis
Joseph, Harold J., Ladue
Joslyn, Harold L., St. Louis
Jost, Charles A., St. Louis
Jotte, Richard F., St. Ann
Joyer, Robert M., St. Louis
Judd, Donald, St. Louis
Judge, Walter T., Crystal City
Judy, Joseph D., St. Louis
Juergens, William G., St. Louis
Jung, J. Marshall, San Diego, Calif.
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Justus, John B., Kansas City

K

Kahler, Monte R., Bolivar
Kahn, Lawrence, St. Louis
Kahn, Marvin, San Antonio, Tex.
(Member Jackson County Medical Society)
Kairuz, Bartholome C., St. Louis
Kaiser, George C., St. Louis
Kallenbach, Glen P., Mexico
Kamada, Tsutomu, O'Fallon
Kamakas, Nicholas, St. Louis
Kaminsky, Watson W., St. Louis
Kamuran, Ozgoncu, St. Louis
Kanarek, Joseph, Kansas City
Kandt, Ray E., Jr., Kansas City
Kane, Clyde E., St. Louis
Kanter, Arnold N., Kansas City
Kantor, Julius M., Kansas City
Kantor, Samuel, Kansas City
Kaplan, Alex H., St. Louis
Kappesser, Netajean B., St. Louis
Kappesser, Roland C., St. Louis
Karandjeff, Apostle D., St. Louis
Kardesch, Milton, St. Louis
Karl, Michael M., St. Louis
Karraker, Alvan G., Farmington
Karsh, Robert S., St. Louis
Kartus, Irving, Kansas City
Kaskie, Clifford R., Clayton
Kasten, Melvin C., Cape Girardeau
Katz, M. Richard, St. Louis
Katz, Milton, Kansas City
Kauffman, Ruth, Versailles
Kaufmann, Herbert H., Kansas City
Kaul, Philip G., Kansas City
Kay, Billy F., Kansas City
Kayes, Jack, St. Louis
Kays, Kenneth M., Rolla
Kealhofer, George C., Kansas City
Keeble, Charles B., St. Louis
Keeler, James E., Kansas City
Keenoy, John J., St. Louis
Keffler, Karl L., St. Louis
Keim, John H., Cape Girardeau
Keitges, Pierre W., Kansas City
Keller, Louis, St. Louis
Keller, Maurice J., St. Louis
Keller, Robert M., Wentzville
Kellett, John G., Webster Groves
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah
Kelley, Robert W., St. Louis
Kelling, Douglas G., Kansas City
Kelling, Jordan, Waverly
Kelly, Eugene H., Ironton
Kelly, Marshall W., Jefferson City
Kelly, R. Emmet, St. Louis
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Kent, Clifford F., Kansas City
Keown, Kenneth K., Columbia
Kepler, Earl C., Fulton
Kernodle, Jefferson D., Kansas City
Kerr, David N., St. Louis
Kerr, Frank T., Monett
Kerr, S. Earl, Columbia
Kessler, Joseph J., St. Louis
Kessler, Sheldon, Florissant
Ketcham, William M., Kansas City
Ketterman, Grace H., Kansas City
Ketterman, Herbert L., Kansas City
Kettner, Edward G., Kansas City
Key, James S., Springfield
Keyes, Edward L., Clayton
Kibbe, Edgar A., California
Kieber, Robert W., St. Joseph
Kieffer, Roland S., St. Louis
Kieffer, Victor B., Jr., St. Louis
Kienberger, Paul A., Independence
Kielar, Richard A., Fort Leonard Wood
Kiene, Richard H., Kansas City
Kienzle, Edward C., St. Louis
Kilker, Clarence H., Normandy
Kilker, Donald E., Normandy
Kilo, Charles, St. Louis
Kimball, Ireland W., Kansas City
Kimball, Merritt H., Kansas City
Kimberlin, Herbert C., Trenton
Kimelman, Nathan, St. Louis
Kinder, James A., Cape Girardeau
Kinder, Jerry L., Cape Girardeau
King, Elbert R., Boise, Idaho
(Member West Central Missouri Medical Society
King, Eustace E., III, St. Louis
King, Francis C., Kirkwood
King, J. Tenbrook, Kansas City
King, James P., St. Louis
King, John V., St. Louis
King, Lucy J., St. Louis
King, Morris K., St. Louis
King, Phillip E., Liberty
King, Richard H., Clinton
King, Walter R., Kansas City
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Kinsella, Edward D., St. Louis
Kinsella, Peter W., St. Louis
Kinsella, Ralph A., Jr., St. Louis
Kipnis, David M., St. Louis
Kirk, Robert V., Kansas City
Kirschman, Robert E., Joplin
Kirstein, Melvin B., St. Louis
Kirtz, Louis P., St. Louis
Kiser, David M., Kansas City
Kissane, John M., St. Louis
Kister, George E., St. Charles
Kistner, William F., St. Louis
Kitchen, William M., Shawnee Mission, Kan.
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Klebba, Larry B., Jefferson City
Klein, Andrew G., St. Louis
Klein, Arnold G., St. Louis
Klein, Bert H., St. Louis
Klein, Edward H., Kansas City
Klein, Saul J., St. Louis
Kleinschmidt, Clinton, St. Louis
Klenk, Charles L., St. Louis
Klepinger, Dayton P., Neosho
Kline, Carlyn M., St. Joseph
Kline, Edmund W., St. Joseph
Klinge, Frederick W., St. Louis
Klingner, George M., Springfield
Klingner, George M., Jr., Springfield
Klinkerfuss, George H., St. Louis
Klippel, Allen P., St. Louis
Klippel, Bernhardt W., St. Louis
Kloecker, Richard J., St. Louis

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Knabb, Arthur D., Springfield
Knabb, Henry F., Jr., Springfield
Knabb, Kenneth E., Springfield
Kneal, E. Ellsworth, St. Louis
Kneibert, Fred L., Poplar Bluff
Knepper, Paul A., St. Joseph
Knese, Luke A., Cypress, Calif.
(Member St. Louis Medical Society)
Knight, Franklin P., St. Louis
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Knight, William A., Jr., St. Louis
Knipschild, Bedford F., Marshall
Knoch, H. Kermit, Kansas City
Knock, Henry L., Kirkwood
Knowles, R. R., St. Louis
Knowlton, Norman P., Jr., St. Louis
Koch, Robert E., Clayton
Koehler, Charles A., Shawnee Mission, Kan.
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Koehler, George A., St. Louis
Koehler, John W., Joplin
Koehler, P. Ruben, St. Louis
Koenig, Marvin I., St. Louis
Koerner, Kenneth A., St. Louis
Koessel, Arthur W., St. Louis
Kohler, Eugene J., St. Louis
Kohler, Louis H., St. Louis
Kolker, Allan E., St. Louis
Kolze, Vernon W., Springfield
Komanetsky, William M., St. Louis
Konikov, Nadya, St. Louis
Konzelmann, John A., St. Louis
Koon, Ben H., Bolivar
Koontz, Paul G., Kansas City
Kopp, Jules H., St. Louis
Kopp, Leonard J., St. Louis
Koppenbrink, Walter E., Jr., Higginsville
Korn, Robert L., Clayton
Korth, William M., Kansas City
Kotner, Lawrence M., St. Louis
Kouchoukos, Nicholas T., Birmingham, Ala.
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Kowert, Edward H., St. Louis
Kozal, Francis L., Crystal City
Kozlowski, Albert E., St. Louis
Kraft, Edward O., Brentwood
Kraft, Jacob, Kansas City
Kramer, Fred, St. Louis
Kramolowsky, Helmuth H., St. Louis
Kraner, Justin F., St. Louis
Kranson, Seymour J., Independence
Kratz, Paul E., Cape Girardeau
Krause, G. Lynn, Jr., St. Louis
Krieger, John L., St. Louis
Krebs, Joseph M., Clayton
Krojanker, Rolf, St. Louis
Kromer, Charles, St. Louis
Kronemer, Norton S., St. Louis
Krueger, Haven C., Kansas City
Kubin, Milford T., Columbia
Kuszer, Arnoldo, Villa Park, Ill.
(Member St. Louis Medical Society)
Kuebrich, Thomas C., Ferguson
Kuehner, Marvin E., APO, N. Y.
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Kuenzi, Donald E., Kansas City
Kuhlman, Robert E., St. Louis
Kuhn, John R., Jr., Joplin
Kuhn, Nobuko O., St. Louis
Kuhn, William F., II, Kansas City
Kulowski, Jacob, St. Joseph
Kurth, Robert K., St. Louis
Kurz, Rudolph F., Alton, Ill.
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Kuttner, Marianne, St. Louis
Kyger, John E., Independence
Kyner, Thomas A., Kansas City

L

Lachance, Leopold, Centralia
Lacy, Paul E., St. Louis
Ladd, Charles B., St. Louis
Ladenson, Roland P., Columbia
LaDriere, Raymond J., St. Louis
Ladyman, George H., Poplar Bluff
LaHue, William C., Lexington
Laird, John M., Jr., Fort Leonard Wood
Lakes, John D., St. Louis
Lally, James J., Kansas City
Lam, Robert L., St. Louis
Lamar, Robert F., Kansas City
Lamb, Wanda, St. Louis
Lambert, Marian, Kansas City
Lambie, Rodger W., Kansas City
Lampton, Lawrence M., Kansas City
Lamy, John E., Sedalia
Landau, Daniel B., Hannibal
Landau, William M., St. Louis
Landhuis, L. R., Columbia
Landis, George K., Kansas City
Landor, John H., Columbia
Lane, Clinton W., St. Louis
Lane, Daniel K., St. Louis
Lane, Jerald P., Carrboro, N. C.
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Laney, Roland L., Carlsbad, Calif.
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Lang, John J., St. Louis
Lange, Adolph C., St. Louis
Langeluttig, Harry V., Jr., Nevada
Langhus, Melvin O., N. Kansas City
Langston, Walter R., Springfield
Lanier, Earl W., St. Louis
Lankford, Harold D., Mexico
Lanning, Richard C., Ste. Genevieve
Lanning, Richard J., Kansas City
Lanning, Robert J., Hannibal
Lansche, Elmer A., St. Louis
Lansche, W. Edward, St. Louis
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Lapp, Harry C., Kansas City
Larimore, Joseph W., St. Louis
Larkin, Rosemary R., St. Louis
Larocca, Felix E. F., St. Louis
Larsen, Kenneth V., St. Louis
Larson, Paul U., St. Louis
Lassar, Gilbert N., St. Louis
Latham, Kenyon S., California
Latham, Raymond W., Kansas City
Latimer, Walter N. A., Hannibal
Lattinville, Henry E., St. Louis
Lau, Luis, St. Louis
Lauber, Joseph J., St. Louis
Lauderdale, William H., Jefferson City
Lauer, Daniel J., Kansas City
Lauer, John D., St. Louis
Laux, France A., St. Louis
Lawrence, George H., St. Louis
Lawrence, John R., Marshall
Lawton, John T., St. Louis
Lawton, Lawrence M., St. Louis
Layton, Ira C., Kansas City
Leahy, John G., St. Louis
LeBlanc, Leo J., St. Louis
L'Ecuyer, Jerome L., St. Louis
Lederer, Charles M., Warrensburg
Lederman, Joseph, St. Louis
Lee, Carleton H., St. Joseph
Lee, Henry A., Kansas City
Lee, Yeu-Tsu, Columbia
Leech, Charles A., Columbia
Leech, Maurice P., Fayette
Leeper, Sidlee W., Columbia
Legan, John K., Kennett
Legner, Stanley G., Perryville
Lehman, Philip C., St. Joseph
Lehner, Richard L., Kansas City
Leidinger, Karl J., Republic
Leifer, William W., Kansas City
Leightner, William, St. Louis
Leitch, Cecil G., Blue Springs
Leitz, Frank B., Kansas City
Lembeck, Joseph A., St. Louis
Lemmon, George B., Springfield
Lenobel, Milton I., Clayton
Lentz, Clark H., Kansas City
Lentz, Harold C., Neosho
Leo, William A., Kansas City
Leonhardt, Erwin M., St. Louis
Leroux, Gene H., Doniphan
Lerwick, Everett R., St. Louis
Leslie, Charles H., Kirkwood
Leslie, J. Paul, Jefferson City
Leslie, James T., Jr., Jefferson City
Levey, Harry B., Kansas City
Levey, Simon A., St. Louis
Levin, Marvin E., St. Louis
Levitt, Joseph, St. Louis
Levy, Irwin, St. Louis
Levy, Jerome F., St. Louis
Lewellen, Charles H., Louisiana
Lewin, Wilbur H., St. Louis
Lewis, Charles R., St. Louis
Lewis, James E., Jr., St. Louis
Lewis, Noel R., Springfield
Lewis, Ray B., Columbia
Lewis, Revis C., Kansas City
Leydig, Stanley M., St. Louis
Liang, Howard S., St. Louis
Lichtor, Alexander, Kansas City
Lichtor, Joseph M., Kansas City
Lichty, Charles A., Shelbina
Lieb, Francis X., St. Louis
Lieb, Otto, St. Louis
Lieberman, B. Albert, Jr., Kansas City
Lieberman, David M., St. Louis
Liese, Grover B., St. Louis
Lilly, Douglas R., St. Louis
Lilly, Terry E., Jr., Kansas City
Lindberg, Donald, Columbia
Lindeman, Carl H., St. Louis
Lindgren, Carleton J., Independence
Lindquist, Carl N., Kansas City
Lindquist, Paul A., Liberty
Link, Alexander J., St. Louis
Link, Vance E., Independence
Linsenmeyer, Charles M., St. Charles
Linville, Howard E., Kansas City
Lipschitz, Ervin, St. Louis
Lipsitz, Ellis S., St. Louis
Lischer, Carl E., St. Louis
Lissner, Arthur B., St. Louis
Liston, Odus, Oakgrove
Little, Monroe H., St. Louis
Littlejohn, Robert T., Kansas City
Littmann, Lewis E., St. Louis
Litton, Lyle D., Springfield
Litton, Lynn O., Columbia
Litwiller, R. W., Columbia
Litzow, Louis T., St. Louis
Lloyd, Ivan E., Kansas City
Lockhart, Charles E., Springfield
Loeb, Virgil, Jr., St. Louis
Loeffel, Ellen S., St. Louis
Logan, James A., Warsaw
Logue, John T., Columbia
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Lohr, Robert W., St. Louis
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Londe, Alan M., Hill AFB, Utah
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London, Stanley L., St. Louis
Lonergan, Warren M., St. Louis
Long, Curtis W., Butler
Long, David S., Harrisonville
Long, Frank B., St. Louis
Long, R. Stacy, Kansas City
Longenecker, Joe L., Joplin
Longo, D. V., Lebanon
Lonsway, Maurice J., St. Louis
Lonsway, Maurice J., Jr., St. Louis
LoPiccolo, Vincent J., St. Louis
LoPiccolo, Vincent J., Jr., St. Louis
Lord, Richard E., St. Louis
Lorenc, Ernest, Springfield
Lottes, James O., St. Louis
Loughead, John R., Poplar Bluff
Loutzenhiser, James K., Kansas City
Lovinggood, Thomas A., Cape Girardeau
Lowe, Alvin L., Sedalia
Lowe, Horace A., Jr., Springfield
Lowell, Paul, Kansas City
Lowenstein, Paul S., St. Louis
Lowrey, Ford J., Kansas City
Lowry, Roberta L., Columbia
Loyd, Earl L., Jefferson City
Lubowitz, Herbert, St. Louis
Lucas, Fred V., Columbia
Lucas, G. Elden, St. Louis
Lucido, Joseph L., St. Louis
Lucke, Eugene M., Hannibal
Luckenbill, Paul T., Plattsburg
Luedde, Fullerton W., St. Louis
Luedde, Philip S., St. Louis
Luehrs, Robert O., St. Louis
Lugo, Samuel, St. Louis
Luh, Andrew, St. Louis
Lund, Herluf G., St. Louis
Lund, Robert H., Clayton
Lurie, Harold H., Springfield
Lusk, Charles A., Jr., Butler
Luten, Drew W., St. Louis
Luter, Carter W., Butler
Luther, George A., St. Louis
Lutkewitte, Joseph F., Ste. Genevieve
Lutz, Martin H., St. Louis
Lyddon, Harold R., Jr., Kansas City
Lyle, Robert R., Versailles
Lyman, Edward H., St. Louis
Lynxwiler, Chester P., St. Louis
Lyss, Carl, St. Louis
Lytle, William R., Rolla
Lyttle, Garnet C., St. Louis
Lytton, George J., Kansas City
Lytton, William B., St. Louis

Mc

McAdam, Charles R., St. Louis
McAfee, C. Alan, St. Louis
McAfee, R. Gordon, Kansas City

McAlhany, Howard J., Springfield
McAlister, William H., St. Louis
McArtor, Thomas R., Browning
McBurney, Charles A., Slater
McCaffree, Mary K., St. Joseph
McCall, Edwin L., St. Louis
McCalla, John P., Kansas City
McCann, John F., St. Louis
McCann, Louis P., Nevada
McCanse, Andrew, Kansas City
McCarroll, Henry R., St. Louis
McCarthy, John M., St. Louis
McCarthy, Thomas D., Ferguson
McCarthy, William F., Kansas City
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McCloskey, R. Bruce, Webster Groves
McClure, David N., Clayton
McClure, James N., Jr., St. Louis
McClure, Thomas C., Fort Lauderdale, Fla.
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McCool, James F., Jr., St. Louis
McCool, Stanley G., St. Louis
McConchie, James E., Independence
McCorkle, E. Lee, Marshall
McCormick, James E., Kansas City
McCoy, Donald L., Marshall
McCoy, Frederick J., Kansas City
McCoy, Warren R., Caruthersville
McCracken, Samuel R., Excelsior Springs
McCraw, Doyle C., Bolivar
McCray, Glen M., Kansas City
McCubbin, Clarence R., Leawood, Kan.
(Member Jackson County Medical Society)
McCullough, Campbell C., Kansas City
McDaniel, John R., St. Joseph
McDermott, Alfred E., Perryville
McDonald, Eugene F., Jackson
McDonald, Victor G., Jr., Kansas City
McDonald, Wilbur P., St. Joseph
McDonnell, John F., Kansas City
McDonough, John, St. Louis
McElroy, Glenn L., Columbia
McEntyre, James M., Gainesville, Fla.
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McFadden, Gene A., Waverly
McFadden, James F., Jr., St. Louis
McFadden, James F., Sr., St. Louis
McFarland, H. Richard, Kansas City
McFarland, Morris D., Kansas City
McGannon, Paul T., Kansas City
McGiff, John C., St. Louis
McGinnis, Byron J., St. Louis
McGinnis, William F., St. Louis
McGinty, Charles P., Cape Girardeau
McGuire, Thomas H., Kansas City
McHaney, John W., Jefferson City
McIntosh, Donald E., Kansas City
McIntyre, John D., Kansas City
McKaskle, Clarence W., Caruthersville
McKee, Oliver A., Kirkwood
McKee, Wallace P., Kansas City
McKinney, Joseph K., St. Louis
McKinsey, John J., Springfield
McKinstry, Karl V., DeSoto
McKnelly, William V., Jefferson City
McKnelly, William V., Jr., Kansas City
McLain, Bobby M., Poplar Bluff
McLane, Jerry F., Poplar Bluff
McLean, Harry A., St. Louis
McLean, Royal C., St. Louis
McLeod, John, Kansas City
McMahon, Bernard J., Clayton
McMillan, Thomas E., Kansas City
McMurray, Herbert C., Manchester
McNalley, Frank P., Clayton
McNalley, Michael, St. Louis
McNamara, John J., Richmond Heights
McNeel, Lee A., Jr., Greenfield
McNew, William T., Carthage
McNutt, Theodore L., Kansas City
McPhee, William R., Kansas City
McPheeters, James W., Poplar Bluff
McPike, Lloyd H., Joplin
McSwiney, John G., St. Louis
McVay, James R., Kansas City
McVay, James R., Jr., Kansas City
McWherter, Lottie B., Kansas City

M

Mabrey, John P., Plattsburg
Macauley, Bernard J., Poplar Bluff
MacBryde, Cyril M., St. Louis
Maccubbin, Don A., Kansas City
MacDonald, Robert R., Jr., Chesterfield
Macdonald, William C., St. Louis
Macdonnell, Thomas M., Marshfield
Machek, Otakar, St. Louis
MacInnis, Florence E., Kansas City
Mack, Mary L., address unknown
Mackenzie, James W., Columbia
MacLaughlin, James C., Joplin
Maclean, J. Alexander, Chanute, Kan.
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(Member Jackson County Medical Society)
Macnish, James M., St. Louis
Macon, William L., Jr., St. Louis
Maddox, Albert R., Sedalia
Maddox, John D., Joplin
Maddux, William P., Springfield
Magaletta, George E., Cape Girardeau
Magee, Charles D., St. Louis
Magee, Robert L., El Dorado Springs
Magee, William E., St. Louis
Magidson, Joseph, St. Louis
Magill, Joseph S., Milan
Maginn, R. Reilly, St. Louis
Maginn, Richard L., St. Joseph
Magness, Guy N., University City
Magness, William C., Branson
Mahe, George A., St. Louis
Maher, Robert W., Springfield
Maher, Thomas F., St. Louis
Maizus, Saul H., St. Louis
Malles, A. Conrad, St. Louis
Manansala, Antonio Q., St. Louis
Mandler, George, Chillicothe
Manganaro, Frank J., St. Louis
Mangels, Kenneth A., Independence
Mangelsdorf, Thomas K., St. Louis
Manion, Peter J., St. Louis
Manley, Charles B., Jr., St. Louis
Mann, James K., Hannibal
Mannis, Ben G., St. Louis
Mansur, Edward E., Stuart, Fla.
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Mantz, Frank A., Kansas City
Maple, Francis M., Springfield
Maravilla, Levy M., St. Louis
Marco, Philip J., Columbia
Marcus, Morris D., St. Louis
Mardini, Edward E., Bonne Terre
Margolis, Richard M., St. Louis
Marienfeld, Carl J., Columbia
Markel, Arthur D., Poplar Bluff
Marks, Mark M., Kansas City
Marmor, William A., Florissant
Mars, Hartley F., Forsyth
Marsh, Alice, Pleasant Hill
Marsh, Wallace S., New Orleans, La.
(Member Clay County Medical Society)
Marshall, Alfred H., Charleston
Marshall, Cameron F., Shawnee Mission, Kan.
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Marshall, Hal E., Kansas City
Marshall, William G., Glasgow
Marston, F. James, Jr., St. Joseph
Martel, Dominique, St. Louis
Martin, Andrew D., Sikeston
Martin, Clyde V., Kansas City
Martin, Daniel C., Kansas City
Martin, Daniel J., St. Louis
Martin, Forrest L., Nevada
Martin, Frederick W., Jr., St. Louis
Martin, J. Barlow, St. Louis
Martin, James M., Kirkwood
Martin, John N., St. Joseph
Martin, Maynard W., Houston, Tex.
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Martin, Richard H., Columbia
Martin, Wilfred E., Odessa
Martin, W. Joe, Louisiana
Martt, Jack M., Columbia
Martz, John C., St. Louis
Mason, Wayne E., Kansas City
Masor, Nathan A., Butler
Massie, Edward, St. Louis
Masters, William H., St. Louis
Masterson, Byron J., Kansas City
Masucci, Joseph M., Kansas City
Mathewson, Hugh S., Kansas City
Matteson, Frank B., Grant City
Matthews, John G., St. Louis
Matthews, John I., Jefferson City
Mattis, Robert D., Clayton
Maughs, Sydney B., St. Louis
Max, Paul F., St. Louis
Maxey, Hugh W., Jefferson City
Maxson, T. Reed, Warrensburg
Maxwell, John A., Kansas City
Maxwell, Richard W., St. Louis
May, Albert L., Jr., Poplar Bluff
Mayer, John H., Jr., Kansas City
Mayer, Robert A., St. Louis
Mayer, William D., Columbia
Mayfield, James L., Crystal City
Mays, Frank G., Washington
Maze, Lawrence E., St. Louis
Mead, Samuel T., Slater
Meador, James R., Clayton
Meagher, Arthur J., St. Louis
Medler, Francis J., St. Louis
Medler, John F., Charleston, S. C.
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Meegan, Robert J., Kansas City
Mehan, Donald J., St. Louis
Meier, Francis X., Jefferson City
Meinberg, William H., St. Louis
Meiners, Paul N., St. Louis
Meiners, Theodore M., St. Louis
Meinershagen, Charles W., Jefferson City
Meirink, Thomas P., St. Louis
Melburn, Colleen M., Houston, Tex.
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Melia, Bernard J., Jr., Fort Belvoir, Va.
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Melick, William F., St. Louis
Menchetti, Don E., Springfield
Mendelsohn, Robert S., St. Louis
Mendelson, David F., St. Louis
Mendonsa, Lawrence E., St. Louis
Menendez, Manuel F., St. Louis
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Merenda, Sam J., St. Louis
Meriwether, Don R., Mission, Kan.
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Merklin, Anton L., St. Louis
Merrims, Theodore, St. Louis
Merritt, Burch A., St. Louis
Merz, Jean J., St. Louis
Mestres, Hugh M., St. Louis
Metz, Charles O., St. Louis
Metzgar, Marshall T., Columbia
Metzl, Kurt, Kansas City
Meyer, Claude B., Springfield
Meyer, Curtis A., St. Louis
Meyer, Herman M., St. Louis
Meyer, James E., Manchester
Meyer, Jay, Denver, Colo.
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Meyer, Paul W., Kansas City
Meyers, Harold L., Kansas City
Meyers, John B., Clayton
Mezera, Raymond A., St. Louis
Michael, Kenneth D., St. Louis
Michael, Vernon E., St. Louis
Michaelree, John F., St. Louis
Middleman, Isadore C., St. Louis
Middleton, John W. Louisiana
Mier, Thomas M., St. Louis
Miksicek, John E., St. Louis
Milder, Benjamin, St. Louis
Miles, George O., Kansas City
Miles, Paul W., St. Louis
Mill, William B., Jr., St. Louis
Miller, Charles, Jr., Kirkwood
Miller, Charles W., Coral Gables, Fla.
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Miller, Clinton L., Lee's Summit
Miller, Clyde S., Waynesville
Miller, D. Herbert, Muskogee, Okla.
(Member Chariton-Macon-Monroe-Randolph County Medical Society)
Miller, David V., Poplar Bluff
Miller, Geoffrey W., St. Louis
Miller, Gerald L., Kansas City
Miller, Harold W., Willow Springs
Miller, James R., St. Louis
Miller, Jule P., Jr., St. Louis
Miller, Leroy J., Columbia
Miller, Max I., Prairie Village, Kan.
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Miller, Norman C., St. Louis
Miller, Oliver J., Cape Girardeau
Miller, Robert N., St. Louis
Miller, Wilson H., Kansas City
Millikin, Lester A., St. Louis
Milne, J. L., Springfield
Milster, Clyde R., St. Louis
Miltenberger, Paul C., Kennett
Minnigerade, Turner L., Columbia
Minnihan, Robert W., Affton
Minton, Robert S., Fortescue
Mishkin, Marvin R., St. Louis
Miskovsky, Emil F., St. Louis
Missey, Wilburn C., Jr., St. Louis
Mitchell, Andrew D., Kansas City
Mitchell, Eugene, St. Louis
Mitchell, Franklin L., Columbia
Mitchell. Lynn D., Columbia

Mitchell, Robert H., Kansas City
Mitchell, Roy E., Salem
Mitchell, Thomas J., St. Clair
Mitra, Nirmal K., Kansas City
Mixson, William C., Kansas City
Moellenhoff, Robert W., Washington
Moen, Berwyn H., St. Joseph
Molden, Charles A., St. Louis
Monafo, William W., Jr., St. Louis
Monat, Seymour, St. Louis
Montani, Charles, St. Louis
Montello, Samuel A., Kansas City
Montes, Arturo C., Baden
Montes-de-Oca, Julio, St. Louis
Montgomery, Austin F., Brentwood
Montgomery, James G., Kansas City
Moody, Jackson C., Harrisonville
Moon, Thomas R., Jr., St. Louis
Mooney, Justin L., Kansas City
Mooney, Marcel L., Kansas City
Moore, Allen H., Jr., Branson
Moore, Alva, St. Louis
Moore, Carl V., St. Louis
Moore, Dan B., Poplar Bluff
Moore, Harry G., St. Louis
Moore, Harry G., Jr., St. Louis
Moore, John L., St. Louis
Moore, Robert A., Kansas City
Moore, Walter L., St. Louis
Moore, William E., Normandy
Moranville, Benedict A., Columbia
Moranz, John W., St. Louis
Moreano, Armando H., Kansas City
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Morris, Joseph H., Jr., Independence
Morris, Mary E., St. Louis
Morrison, Arlen, Clayton
Morrison, Donald H., Kansas City
Morrison, T. A., Aurora
Morse, John P., Phoenixville, Pa.
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Mortensen, Frede, St. Louis
Morton, Paul C., Springfield
Mosby, Larry Dee, Columbia
Moseley, F. Thomas, Springfield
Moses, Robert A., St. Louis
Moss, Paul, Kansas City
Mosser, Robert S., Independence
Mothershead, John L., St. Joseph
Motzel, Albert J., St. Louis
Mount, Allan, Independence
Mountjoy, Grace S., St. Louis
Mowrer, Marie O., St. Louis
Mowrey, William O., Jennings
Muckerman, Richard I. C., St. Louis
Mudd, J. Gerard, St. Louis
Muehlberger, James J., Kansas City
Muelheims, Gerhard H., St. Louis
Mueller, Clarence E., St. Louis
Mueller, Joseph A., St. Louis
Mueller, Martin J., Kansas City
Mueller, Morris A., St. Louis
Mueller, Robert, St. Louis
Mueller, Robert J., St. Louis
Mueller, Wilbur K., St. Louis
Muench, Albert H., St. Joseph
Muench, Laurence W., St. Louis
Muenster, Vincent P., St. Charles
Muether, Raymond O., St. Louis
Mullarky, Wilbur A., Chesterfield
Mullen, Jack, Bonne Terre
Mullen, Leo M., Kansas City
Mulligan, Leo V., St. Louis
Mullinax, Orr, Nevada
Mullins, Bernard L., N. Kansas City
Mullins, John E., St. Louis
Multhauf, Cyril J., Kansas City
Mundy, Homer F., St. Joseph
Mundy, William L., Kansas City
Muniz, Carlos E., Columbia
Munsch, Girard A., St. Louis
Murney, Joseph A., Washington
Murphy, Bernard L., Hannibal
Murphy, George E., St. Louis
Murphy, James J., Kansas City
Murphy, James P., St. Louis
Murphy, John C., St. Louis
Murphy, Paul, St. Louis
Murphy, Robert J., Kansas City
Murray, Wilber L., Kansas City
Muschany, Norman K., St. Louis
Musgrave, David E., Excelsior Springs
Muth, Robert G., Kansas City
Mutshnick, Clara P., St. Louis
Myers, Ivan T., St. Louis
Myers, James M., Rolla
Myers, John S., Kansas City
Myers, Robert M., Kansas City

N

Naime, Mansour J., Kansas City
Nakada, James R., St. Louis
Napper, Marvin L., Springfield
Naryka, Joseph J., St. Louis
Nash, Helen E., St. Louis
Nash, W. Hampton, St. Louis
Nathan, Lester J., St. Louis
Neal, M. Pinson, Columbia
Near, David M., Florissant
Needels, Orval T., Kansas City
Neilson, Arthur W., St. Louis
Nelson, Bentley A., Kansas City
Nelson, J. Roger, Kirkwood
Nelson, James S., Brentwood
Nemec, Stanley S., St. Louis
Ness, Carl K., St. Joseph
Nesselrode, John H., Independence
Nester, Charles A., St. Louis
Neu, Leo T., Jr., Springfield
Neubeiser, Ben L., St. Charles
Neun, William F., St. Louis
Newman, Mary Jane, Cassville
Newman, Percy, St. Louis
Newman, Robert L., Kansas City
Newport, Gerald, St. Louis
Newton, Gordon, St. Louis
Newton, William T., St. Louis
Nickel, James F., St. Louis
Nickson, Charles E., Jr., Independence
Nicolai, Charles H., St. Louis
Nicolay, Kenneth S., Kansas City
Niedermeyer, Edward L., Tarkio
Niedermeyer, George J., St. Louis
Niedorf, Saul, St. Louis
Niesen, Frank J., St. Louis
Nigh, Charles A., St. Louis
Nigro, Dominic M., Kansas City
Nigro, E. Robert, Kansas City
Nigro, Joseph A., Kansas City
Nishi, Toshio, St. Louis
Nixon, Edward E., Gallatin
Noah, Joseph W., St. Louis
Noback, Richardson K., Kansas City
Nolan, Charles J., St. Louis
Noller, Henry W., Overland
Noltensmeyer, Milton N., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Nomura, Roy M. Y., St. Louis
Norland, Charles C., St. Louis
Norton, William H., St. Louis
Nouhan, Joseph G., Jr., St. Louis
Nouri, Hassan, St. Louis
Novak, Edward J., Kansas City
Nuetzel, John A., St. Louis
Nunez, Maria M., St. Louis
Nunn, Pat M., Kansas City
Nunnelly, Gordon M., Cape Girardeau
Nussbaum, Paul B., Cape Girardeau
Nussbaum, Paul S., Cape Girardeau
Nussbaum, Robert A., St. Louis
Nye, Robert S., St. Louis

O

Oakley, Margaret M., St. Louis
O'Bannon, Lon W., Jr., Florissant
Obermeyer, Charles G., St. Louis
O'Brien, Edward C., St. Louis
O'Brien, Harry F., Mexico
O'Brien, James A., Muskogee, Okla.
(Member Jasper County Medical Society)
O'Brien, Liam, St. Joseph
O'Brien, Robert M., St. Louis
O'Connor, Robert J., Florissant
O'Connor, William B., St. Joseph
O'Donnell, Joseph V., St. Louis
O'Dowd, James A., St. Louis
Oehler, William F., Cape Girardeau
Oetter, Donald L., St. Louis
O'Farrell, Thomas P., Kansas City
Ogilvie, John H., Gravois Mills
Oglesby, Richard B., St. Louis
Ogura, Joseph H., Ladue
O'Hearne, John J., Kansas City
Ohmoto, Masao, St. Louis
O'Keefe, Joseph D., St. Louis
O'Kell, Richard T., Kansas City
Okun, Edward, St. Louis
O'Leary, James L., St. Louis
Olin, Robert H., St. Louis
Olive, George C., Neosho
Oliver, George A., Farmington
Olmsted, William H., St. Louis
Olson, Robert E., St. Louis
O'Malley, James F., Kansas City
O'Neal, Lawrence W., St. Louis
O'Neal, Patricia, St. Louis
O'Neil, James H., Kansas City
O'Neill, John B., St. Louis
Onken, Henry D., St. Louis
Oppenheimer, Henry E., Clayton
O'Reilly, D. Elliott, St. Louis
Orenstein, Joseph M., St. Louis
Orgel, M. Norman, St. Louis
Orsay, Paul K., St. Louis
Ortiguero, Leopoldo M., St. Louis
Ortmeyer, Leroy F., St. Louis
Osborn, Donald O., St. Louis
Osborn, Retus W., III, Farmington
Osborne, Charles D., Sedalia
Osborne, Jere O., Lee's Summit
Osbourn, Richard A., Fulton
Ossman, Julian A., Jefferson City
Ost, Mark D., Kansas City
O'Sullivan, Daniel F., St. Louis
O'Sullivan, George A., St. Louis
Ott, Harold J., II, Denver, Colo.
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Ott, Harold J., Maplewood
Ottensmeyer, Charles D., St. Louis
Otto, Thomas G., Cape Girardeau
Overend, Donald S., Springfield
Overesch, Harry B., Kansas City
Overholser, Milton D., Columbia
Owen, Robert F., St. Louis
Owens, Graham J., Kansas City
Owens, Hugh H., Kansas City
Owens, Richard L., Kansas City
Owens, Robert H., Kansas City
Owings, Raymond H., Sedalia
Owre, Alfred, Jr., Kansas City
Ozar, Milton B., Kansas City
Ozenberger, Larry A., Plattsburg
Ozmat, Orhan, St. Louis

P

Packman, Robert C., St. Louis
Paddock, Charles S., Joplin
Padfield, Earl G., Jr., Kansas City
Page, Jesse W., Sikeston
Paine, Robert, St. Louis
Painter, Andrew E., Portageville
Painter, Lattie B., Jr., Portageville
Pakula, Sidney, Kansas City
Pakula, Stephen B., Kansas City
Palazzo, Frank A., St. Louis
Palcheff, Chris L., Springfield
Palenske, Robert L., Hornersville
Palermo, Vincent G., Chesterfield
Paletta, Francis X., St. Louis
Pallett, Harold A., Kansas City
Papp, Sandor D., Joplin
Parashak, Paul M., St. Louis
Parato, John M., St. Louis
Parelman, Allen G., Kansas City
Paris, William H., Normandy
Park, George M., Chesterfield
Park, William I., Jr., Springfield
Parker, Arthur C., Jr., Poplar Bluff
Parker, Brent M., St. Louis
Parker, H. Graham, Platte City
Parker, Hubert M., Kansas City
Parker, Robert H., Kansas City
Parker, Thomas W., University City
Parker, William, St. Louis
Parks, Stephen, Sikeston
Parlato, George S., Springfield
Parrish, Henry M., Columbia
Parsons, Bernie, Albany
Parsons, D. LeRoy, Cape Girardeau
Parsons, Eugene O., Kansas City
Parsons, Richard P., St. Louis
Pascoe, James J., Nevada
Passanante, Bartholomew M., St. Louis
Passman, Harold, Kansas City
Pate, Otho S., N. Kansas City
Patient, William F., St. Louis
Patrick, Roman L., Jr., St. Louis
Patterson, Donald R., Joplin
Patterson, Grover S., Carthage
Patton, William G., San Marino, Calif.
(Member Mineral Area County Medical Society)
Pawol, S. E., St. Louis
Payne, David E., Columbia
Payne, John H., Las Vegas, Nev.
(Member St. Louis Medical Society)

Payne, John W., Columbia
Payne, Meredith J., St. Louis
Payne, William B., Kansas City
Pearman, Carl C., Columbia
Pearse, Roy W., Jr., Nevada
Pearson, Paul E., Kansas City
Peck, Chester R., Jr., Kennett
Peden, Burnet W., Clayton
Peden, James C., Jr., St. Louis
Peden, Joseph C., St. Louis
Peden, Joseph C., Jr., St. Louis
Peebles, J. B., Jr., Kirkwood
Peete, Don C., Kansas City
Pelz, Mort D., Miami, Fla.
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Pemberton, Charles W., Arlington, Va.
(Member Grand River Medical Society)
Pence, F. Wendell, Carthage
Penner, Stanley, Kansas City
Penninger, William H., Springfield
Pennington, Francis E., St. Louis
Pennoyer, James, Webster Groves
Pentecost, Richard L., Kansas City
Perez, Blanca M., St. Louis
Perez-Mesa, Carlos, Columbia
Perez-Tamayo, Ruheri, Columbia
Perico, Carlos J., Kansas City
Perkins, David E., St. Louis
Perll, Maurice F., Kansas City
Perll, Rita D., Kansas City
Perna, Vincent P., St. Louis
Pernoud, Flavius G., Jr., St. Louis
Pernoud, Michael F., St. Louis
Perry, H. Mitchell, Town & Country
Perry, Lawrence L., Jr., Kansas City
Perry, Ralph, Kansas City
Perry, William D., St. Louis
Petersen, Arthur G., Kansas City
Petersen, Gerald D., Kansas City
Petersen, Harold E., St. Joseph
Peterson, Bonita J., Kansas City
Peterson, Carl M., Kansas City
Peterson, Donald B., Fulton
Peterson, Frederick D., St. Louis
Peterson, George L., Shawnee Mission, Kan.
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Peterson, Milton C., Kansas City
Peterson, Stanley S., Springfield
Peterson, Walter R., Kansas City
Petitt, Robert M., Kansas City
Petry, Ezra L., Kansas City
Petty, Jerry M., St. Louis
Pfefer, Leland U., Columbia
Pfeffer, Robert I., St. Joseph
Pfeifer, Oliver C., St. Louis
Pfuetze, Edwin L., Kansas City
Phillips, Hanford, St. Louis
Phillips, John J., Brentwood
Phillips, William J., St. Louis
Pianetto, M. Besso, Koch
Piccione, Leonard N., St. Louis
Pickard, Clarence M., Columbia
Pickard, Nicholas S., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Pickens, E. Allen, St. Louis
Pickens, Edgar E., San Diego, Calif.
(Member Jackson County Medical Society)
Pierce, John A., St. Louis
Pierron, John B., Kansas City
Pifer, Lawrence H., St. Joseph
Pileggi, Felix A., N. Kansas City
Pilla, Lawrence A., St. Louis
Pingelton, William B., Columbia
Pinsker, Oscar T., Kansas City
Piper, Donald K., Kansas City
Pipes, Keith E., St. Louis
Pipkin, Garrett, Kansas City
Pitsinger, Nolan B., St. Louis
Pitts, Ferris N., Jr., St. Louis
Platt, William R., Clayton
Platz, John H., Carrollton
Plax, Steven, St. Louis
Plesons, John D., St. Louis
Plowman, Edward M., Hannibal
Plumlee, John E., Columbia
Plumpe, W. Tupper, St. Louis
Podos, Steven M., Bethesda, Md.
(Member St. Louis County Medical Society)
Podrecca, Guido I., Springfield
Poggemeier, William H., Jr., St. Charles
Polk, George M., Kansas City
Polk, John W., Springfield
Pollack, Maxwell A., St. Louis
Pollock, Leo H., Kansas City
Poor, Carl W., Neosho
Pope, Charles H., Jr., Independence
Popp, Carl G., Sikeston
Porporis, Arthur A., St. Louis
Porter, Jim C., Lebanon
Porter, Louis, Kansas City
Porter, Russell C., Seal Beach Calif.
(Member Clay County Medical Society)
Portuondo, Bonaventura C., St. Louis
Poser, Charles M., Kansas City
Post, Cyril A., Poplar Bluff
Post, John P., Washington
Post, M. Hayward, Pleasant Valley, Conn.
(Member St. Louis Medical Society)
Post, Stephen L., St. Louis
Post, Winfred L., Joplin
Potashnick, Robert, St. Louis
Potchen, E. James, St. Louis
Potter, Caryl A., Jr., St. Joseph
Potter, Lee G., Kansas City
Potter, Reese H., St. Louis
Potter, Thompson E., St. Joseph
Potts, Donald A., Independence
Powell, Charles B., Florissant
Powell, Earl A., St. Louis
Powell, Edwin M., Springfield
Powell, Nelson E., Kansas City
Powell, Robert G., Joplin
Powers, John M., Independence
Powers, Pierce W., St. Louis
Powers, William E., St. Louis
Pranger, Sylvester H., St. Louis
Prater, Bill G., Springfield
Presnell, Cleitus A., St. Louis
Press, Maurice J., St. Louis
Preston, Albert, Jr., Kansas City
Price, Charles H., Cassville
Price, Kenneth C., St. Louis
Printz, Joseph H., Kansas City
Printz, Otto J., Kansas City
Probst, Raymond E., St. Louis
Probstein, Jacob G., St. Louis
Proctor, Donald C., Sedalia
Prophete, B., St. Louis
Pruett, Burchard S., St. Louis
Pruett, Don S., St. Louis
Pruett, Hubert S., St. Louis
Pruett, Paul L., Springfield
Pucci, Gregory L., Kansas City
Pugh, Reginald P., Columbia
Pugh, Richard G., Independence
Purcell, Harry K., St. Louis
Purcell, Paul L., Smithville
Pyne, Herbert S., St. Louis

Q

Quer, Erich A., Kansas City
Quevy, Richard G., St. Louis
Quick, Richard T., Chevy Chase, Md.
(Member St. Louis Medical Society)
Quinn, Paul S., Springfield
Quistgard, Paul C., Hollister

R

Racadio, Severo M., Kirkwood
Rachlin, Maxwell, St. Louis
Rader, Ada B., Kansas City
Rader, Edward S., St. Louis
Rader, George B., St. Louis
Radke, John D., St. Louis
Ragland, John E., Ballwin
Ragsdale, Edward, St. Louis
Ragsdale, George M., Paris
Raich, Robert A., Kansas City
Rainey, Robert, St. Louis
Rainwater, Elmer H., Springfield
Rall, Kenneth L., Columbia
Ramey, Ehret O., Kansas City
Ramos, John F., Jr., Kansas City
Ramsey, Robert H., Ferguson
Randall, Don Q., St. Charles
Randolph, Bernard C., St. Louis
Rannie, Paul R., Independence
Rao, Carlo, St. Louis
Raper, Charles A., Poplar Bluff
Rapp, Earl L., Hannibal
Rapp, Harold B., Cape Girardeau
Rappold, H. O., St. Ann
Rawlins, Fred E., Cape Girardeau
Rawlins, Kelly, Holden
Raybuek, Harry E., St. Louis
Raynor, Richard, Marshall
Rector, Joe L., Jr., Kansas City
Redington, James C., Jr., Clayton
Redmond, William, St. Joseph
Reeder, Charles C., Smithville
Reese, A. Victor, St. Louis
Reh, Edward P., St. Louis
Rehm, Ralph, Bloomfield
Reich, Harry A., St. Louis
Reichert, M. Cecelia, St. Louis
Reiches, Aaron J., St. Louis
Reid, James A., Marshall
Reider, Richard A., Warson Woods
Reilly, Pierce J., St. Louis
Reineek, John A., St. Louis
Reinhard, Edward H., St. Louis
Reinhardt, George R., Kansas City
Reinkemeyer, Joseph A., Travis AFB, Calif.
(Member St. Louis Medical Society)
Reis, Carl J., St. Louis
Reister, Dorothy D., Shawnee Mission, Kan.
(Member St. Louis County Medical Society)
Reister, Philip D., Kansas City
Reitman, Stanley, St. Louis
Reitz, Carl H., Kansas City
Rendleman, George F., St. Louis
Rendleman, George, Jr., St. Louis
Rennard, Marvin, St. Louis
Repetto, Albert M., St. Louis
Repp, Theodore J., St. Louis
Reuter, Louis A., St. Louis
Revare, Paul, Kansas City
Revels, Harry, III, St. Louis
Reyes, Jose T., St. Louis
Reyes, Rosendo A., Crystal City
Reynolds, Clarence C., Kansas City
Reynolds, Fred, St. Louis
Reynolds, Garland A., Cape Girardeau
Reynolds, James R., Neosho
Rhoades, Arthur B., Kansas City
Rhodes, Euhlan L., Warsaw
Riee, Carl E., Hillsboro
Rice, Earl R., Fort Lauderdale, Fla.
(Member St. Louis Medical Society)
Rice, Huberta K., Brookfield
Richards, Frank O., St. Louis
Richardson, George A., Union
Richardson, Marion W., Kansas City
Richardson, Thomas F., Clayton
Richardson, William D., Ghana, W. Africa
(Member Clay County Medical Society)
Richardson, William R., Union
Richert, Robert C., Kansas City
Richman, Elmer, Chesterfield
Richter, William B., Stockton
Riddell, Richard V., St. Joseph
Ridenhour, C. E. Gene, Columbia
Ridgeway, William G., St. Louis
Ridings, Harold D., Cape Girardeau
Ridzon, Thomas J., St. Charles
Ries, Douglas A., St. Louis
Riffel, Gordon W., Bourbon
Rifkin, Shale M., St. Louis
Riggio, Salvatore N., St. Louis
Rigney, Levi M., Springfield
Rikli, Arthur E., Columbia
Riley, Charles T., Richmond
Riley, John J., St. Louis
Riley, Joseph P., Jr., Parthenon, Ark.
(Member Jackson County Medical Society)
Riller, Lowell E., Kansas City
Rinck, Edward C., Nevada
Ring, Edward M., St. Louis
Ringo, Henry J., Centertown
Rink, Richard A., Columbia
Ritchie, Frances R., St. Louis
Ritter, Hubert A., St. Louis
Ritter, Paul J., St. Louis
Ritter, Raymond A., Cape Girardeau
Ritterbusch, James K., Fulton
Rizzo, Adolfo E., St. Louis
Roach, Edward A., St. Charles
Roark, Glenn E., Columbia
Robben, G. Garry, Jacksonville, Fla.
(Member St. Louis Medical Society)
Roberts, Grosvenor G., Kansas City
Roberts, Harold K., Clayton
Roberts, Harold M., Kansas City
Roberts, John P., Kirkwood
Roberts, John R., St. Louis
Roberts, L. Marvin, Kansas City
Roberts, Paul A., Sweet Springs
Roberts, Phyllis Grant, St. Joseph
Robertson, Frank G., St. Louis
Robertson, William D., Poplar Bluff
Robertson, William D., Kansas City
Robichaux, Eugene B., Excelsior Springs
Robins, Eli, St. Louis
Robinson, Arthur W., Kansas City
Robinson, Edith C., St. Louis
Robinson, E. Kip, Kansas City
Robinson, George G., Humansville
Robinson, G. Wilse, Jr., Kansas City
Robinson, John A., Edgerton
Robinson, Van M., Kansas City
Robinson, William J., Kansas City
Robison, James T., Jr., Kansas City
Roblee, Melvin A., St. Louis
Roche, Maurice B., St. Louis
Rodeman, John M., Sedalia

Rodes, Ned D., Mexico
Rodgers, Elrie P., Columbia
Rodgers, George H., Overland Park, Kan.
(Member Jackson County Medical Society)
Rodgers, Samuel U., Kansas City
Rodriguez, Ubaldo R., St. Louis
Roehrs, Marvin E., Marshall
Rogers, Cyril H., St. Louis
Rogers, John A., St. Louis
Rogers, John T., St. Joseph
Rogers, Robert L., Kansas City
Rohlfing, Edwin H., St. Louis
Rohlfing, Walter H., St. Louis
Roller, Merrill J., Hannibal
Rollins, Harry D., Winona
Rolufs, Lloyd S., Kirkwood
Rolwing, E. Charles, Charleston
Ronald, Douglas C., Butler
Roodman, Herman J., Overland
Roos, Albert, St. Louis
Roper, Charles L., St. Louis
Roper, Stanley D., Ozark
Rose, Charles W., Kansas City
Rose, Dalton K., St. Louis
Rosecan, Marvin, St. Louis
Rosen, Max, Springfield
Rosenbaum, Harry D., St. Louis
Rosenbaum, Herbert E., St. Louis
Rosenbaum, Louis J., Phoenix, Ariz.
(Member St. Louis County Medical Society)
Rosenfeld, Henry, St. Louis
Rosenthal, Irwin I., St. Joseph
Ross, Gilbert, Jr., Columbia
Rost, William B., St. Joseph
Roter, Alexander M., St. Charles
Roth, John J., St. Louis
Rother, Paul H., St. Charles
Rothman, David, St. Louis
Rothweiler, Robert J., St. Louis
Roufa, Joseph F., St. Louis
Roulhac, George E., St. Louis
Rouse, David M., Mexico
Rouse, Ernest T., St. Louis
Rowlette, Avery P., Moberly
Roy, Joseph A., Jennings
Royce, James J., Sarcoxie
Royce, Robert K., St. Louis
Royse, Roy P., Sullivan
Royston, Grandison D., Hope, Ark.
(Member St. Louis Medical Society)
Rubenstein, Melvin, St. Louis
Rubin, Robert, St. Louis
Rubin, Sidney, Kansas City
Rubnitz, Leon H., Kansas City
Rudi, Herbert J., St. Louis
Rufe, John R., Kansas City
Ruff, T. Eugene, Poplar Bluff
Ruhling, Rudy, St. Louis
Rusan, Thomas E., St. Louis
Russell, Barbara E., Rolla
Russell, Earl D., Springfield
Russell, Garth, Columbia
Russell, Herman E., Berkley
Russell, James L., Kansas City
Russell, Joseph P., Jefferson City
Russell, Robert K., Raytown
Rutledge, John F., Festus
Rutledge, William J., Campbell
Ryan, John B., Washington
Ryan, John H., St. Joseph
Ryan, John J., Clayton
Ryan, Robert E., St. Louis
Ryan, Robert J., Tucson, Ariz.
(Member St. Louis Medical Society)
Ryan, Thomas J., Jefferson City

S

St. John, Thomas C., St. Louis
Sabates, Felix N., Kansas City
Sachar, Leo A., St. Louis
Saferstein, Lester, Kansas City
Sakamoto, Arthur, St. Louis
Sala, Jose M., Springfield
Saladino, Anthony, Kansas City
Salanga, P. B., St. Louis
Sale, Llewellyn, Jr., St. Louis
Salmon, Mickey L., St. Louis
Samad, Isa A., St. Louis
Sammons, Harry C., St. Louis
Samuelson, Edward A., Kansas City
Sanders, Donald C., Kansas City
Sanders, George E., Excelsior Springs
Sanders, Harmon U., Jr., Lawrence, Kan.
(Member Jackson County Medical Society)
Sanders, Jack S., Jefferson City
Sanders, Robert D., St. Louis
Sanders, Theodore E., St. Louis
Sanders, William F., Kansas City
Sandow, Theodore, Jr., Kansas City
Santanello, William M., St. Louis
Santiago, Miguel, St. Louis
Santillano, Antonio B., Ballwin
Santoro, Carlos G., Kansas City
Saper, Philip, Lee's Summit
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse
Sasano, Joseph R., Jr., Kansas City
Sasser, William F., St. Louis
Sato, George, St. Louis
Satterfield, Val B., Chesterfield
Sauer, Donald C., University City
Sauer, Gordon C., Kansas City
Sauer, W. Nicholas, St. Louis
Saunders, Everett L., Independence
Sawyer, Floyd E., Kansas City
Sawyer, James, St. Louis
Scales, Margaret B., Kansas City
Scanlon, Robert C., Springfield
Schaan, Robert C., St. Louis
Schaef, Mary L., St. Louis
Schaefer, George J., St. Louis
Schaefer, Glennon S., Jr., St. Louis
Schaeffer, Edward M., Springfield
Schaerer, Jacques P., St. Louis
Schaerrer, William C., Kansas City
Schaper, Ernest H., St. Louis
Schattyn, Martyn, St. Louis
Schechter, Samuel E., St. Louis
Scheele, Paul M., St. Louis
Scheer, George E., St. Louis
Scheff, Harold, St. Louis
Schengber, John S., St. Louis
Schertz, Truman B., N. Kansas City
Scheuber, Charles, Columbia
Schewe, Elmer J., Jr., Columbia
Schierman, William D., Clayton
Schiffmacher, Jack E., Kansas City
Schilhe, Gene A., Kansas City
Schlansky, Seymour M., St. Louis
Schlenker, Lawrence, St. Louis
Schluer, Elmer P., St. Louis
Schmidt, C. Robert, Kansas City
Schmidt, Charles A., Gerald
Schmidt, Edwin H., St. Louis
Schmidt, Edmund M., St. Louis
Schmidt, Herbert J., Joplin
Schmidt, J. H., Jefferson City
Schmiemeier, Roy H., St. Louis
Schneider, Sam, St. Louis
Schneider, Thomas A., St. Charles
Schnellmann, Donald C., St. Ann
Schoeberl, Cletus B., Joplin
Schoeck, Albert F., St. Louis
Schoedinger, George R., III, St. Louis
Schoentag, John S., St. Louis
Schoolman, Arnold, Kansas City
Schopp, Alvin C., St. Louis
Schottman, Gerhard W., Jr., Kansas City
Schranck, Charles R., St. Louis
Schroeder, Henry A., W. Brattleboro Vt.
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Schroff, Carle H., Springfield
Schuessler, Wolfgang P., St. Louis
Schuetz, Alfred, St. Charles
Schulte, Gregory A., Joplin
Schultz, E. Robert, St. Louis
Schultz, Irwin, St. Louis
Schultz, Loraine E., Branson
Schultz, Samuel, St. Louis
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Schwartz, Frederick O., St. Louis
Schwartz, Henry G., St. Louis
Schwartz, John T., Columbia
Schwartz, Melvin M., St. Louis
Schwartzman, Bernard, St. Louis
Schweiss, John F., St. Louis
Schweitzer, Fred C., Jr., Springfield
Sciortino, Gaspare, St. Louis
Sciortino, John S., St. Louis
Scokel, Paul W., III, St. Charles
Scopelite, Joseph A., St. Louis
Scorse, Sidney W., Joplin
Scott, Charles C., Kansas City
Scott, E. David, Jefferson City
Scott, Elwin P., St. Louis
Scott, Horace W., St. Louis
Scott, Wendell G., St. Louis
Seabaugh, Dayton I. L., Jackson
Seabaugh, Loy R., Cape Girardeau
Seabaugh, Oda L., Cape Girardeau
Seabaugh, Ottis D., Webster Groves
Seabaugh, William O. L., Cape Girardeau
Seabold, John A., University City
Seddon, John W., St. Louis
See, William B., Columbia
Seeley, James J., St. Louis
Seely, Clark W., Kansas City
Seevers, Ruth, Osceola
Seib, George A., St. Louis
Sells, Kenneth J., Kansas City
Senhauser, Donald A., Columbia
Senn, Emmett J., Herculaneum
Senne, Herbert C., St. Joseph
Sennott, John S., Jefferson City
Senor, Samuel E., St. Joseph
Senturia, Ben H., St. Louis
Senturia, Hyman R., St. Louis
Sertl, John D., St. Louis
Sevastianos, Aristides E., St. Louis
Sevin, Omar R., Rockhall, Md.
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Sewell, Minor F., Kansas City
Sexton, Daniel L., St. Louis
Sexton, Elmer E., St. Louis
Shackelford, Horace H., St. Louis
Shackter, Bruce I., Springfield
Shah, Anwar, St. Louis
Shahan, Philip T., St. Louis
Shalet, Malcolm F., Kansas City
Shanahan, Mary Patricia, Joplin
Shaner, John F., St. Louis
Shank, Robert E., St. Louis
Shapiro, Herbert N., St. Louis
Shapiro, Lazare M., Kansas City
Shapiro, Leonard Z., Scott AFB, Ill.
(Member St. Louis Medical Society)
Shapleigh, John B., St. Louis
Sharp, Austin R., St. Louis
Shatz, Burton A., St. Louis
Shaw, Edward J., St. Louis
Shaw, William J., Fayette
Shaw, William J., Jr., Fayette
Shea, James G., Gerald
Sheahan, Edwin L., Atlanta, Ga.
(Member St. Louis Medical Society)
Sheahon, John A., Kansas City
Shecter, Nathan, Kansas City
Sheets, Martin E., Chesterfield
Sheffield, William, St. Louis
Shelden, Russell D., Kansas City
Shell, William C., Sikeston
Shelton, Earl W., St. Louis
Shelton, Edward O., Eldon
Shen, Jerome T. Y., St. Louis
Sheppard, Lee C., Jr., Jackson, Tenn.
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Sherard, Julius C., St. Louis
Sheridan, Edmund R., St. Louis
Sherman, Alfred I., Detroit, Mich.
(Member St. Louis Medical Society)
Sherwin, Charles S., St. Louis
Shevlin, Charles F., St. Joseph
Shieber, William, St. Louis
Shields, J. B., St. Louis
Shifrin, Alexander, Kansas City
Shireman, Kenneth L., Kansas City
Shires, Edward B., Kansas City
Shirey, Arnold G., Hayti
Shobe, Frank O., St. Louis
Shockley, Clarence J., Kansas City
Shofstall, Charles K., Kansas City
Shopfner, Charles E., Kansas City
Shoss, Milton, Cape Girardeau
Shuey, Herbert H., Kansas City
Shull, George D., Jefferson City
Shuman, Joseph S., St. Louis
Shumate, L. St. Clair, Reeds Spring
Shuter, Eli R., St. Louis
Shyken, Herman, St. Louis
Shypper, Moses J., Kansas City
Siceluff, Joseph G., Springfield
Siegel, Carl D., Sedalia
Siegel, Peter V., Washington, D. C.
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Siemers, George E., St. Louis
Siesener, Herbert H., St. Louis
Sievers, Edward F., Hollywood Beach, Fla.
(Member St. Louis Medical Society)
Sights, Warren P., Jr., Columbia
Sigmund, Charles A., St. Ann
Signorelli, Andrew J., St. Louis
Silberman, Henry K., Columbia
Silsby, Don J., Springfield
Silsby, Harry D., Springfield
Silver, Bernd, St. Louis
Silver, Herbert, St. Louis
Silverberg, Charles, St. Louis
Silvermintz, Saul D., Ladue
Simmons, Donald D., Kansas City
Simmons, Earl M., Jr., Columbia
Simms, Otho M., St. Charles

Simon, David L., St. Louis
Simon, Jerome I., St. Louis
Simon, Nathan M., Clayton
Simon, Sanford, Kansas City
Simpson, Albert P., Springfield
Simpson, Emerson L., Springfield
Simril, Wayne A., Clayton
Sims, William A., Jr., St. Louis
Sinclair, Alexander B., Kansas City
Singleton, John M., III, Kansas City
Sisk, James C., St. Louis
Sisson, Richard G., St. Louis
Skeffington, Mary Jane, St. Louis
Skilling, David M., Jr., St. Louis
Skillman, Robert K., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Skimming, W. Lee, St. Louis
Skinner, John S., St. Louis
Skinner, John T., Kansas City
Sklenar, Donald E., St. Joseph
Slankard, J. Edward, Kansas City
Slaughter, Carl R., N. Kansas City
Slaughter, Shelby C., Fredericktown
Slentz, Edwin L., Kansas City
Slentz, William A., Kansas City
Slickman, Robert A., Kansas City
Slotkin, Robert J., St. Charles
Sly, William S., St. Louis
Smiley, William, St. Louis
Smit, Herbert M., St. Louis
Smith, Arthur B., Kansas City
Smith, Benjamin F., Jr., St. Louis
Smith, C. Franklin, Willow Springs
Smith, C. Souter, Springfield
Smith, Carl C., Moberly
Smith, Dermott, St. Louis
Smith, Edwin I., Oklahoma City, Okla.
(Member Jackson County Medical Society)
Smith, Garland F., St. Louis
Smith, George E., St. Louis
Smith, Grafton A., Columbia
Smith, Herbert P., St. Louis
Smith, Hubert E., Kansas City
Smith, Hugh R., St. Louis
Smith, Ira T., Kansas City
Smith, J. Earl, St. Louis
Smith, James O., Clinton
Smith, Jason N., Jr., Columbia
Smith, Joe R., Columbia
Smith, John R., St. Louis
Smith, Katherine W., Kansas City
Smith, Kathleen, St. Louis
Smith, Kenneth R., Jr., St. Louis
Smith, Morton E., St. Louis
Smith, Norris W., St. Louis
Smith, Othello D., Mission, Kan.
(Member Jackson County Medical Society)
Smith, Robert S., St. Louis
Smith, Robert W., Marceline
Smith, Roland T., Joplin
Smith, Rollin H., West Plains
Smith, Sidney E., St. Louis
Smith, Ted P., Bowling Green
Smith, Wallace B., Independence
Smith, William J., Windsor
Smith, William R., Carthage
Smolik, Edmund A., St. Louis
Smoller, Martin B., St. Charles
Smull, Ned W., Kansas City
Snead, William H., Jr., Springfield
Sneid, Philip, Kansas City
Snider, Wilbur R., Independence
Sniderman, Stephen P., Ft. Leonard Wood
Snyder, Edward N., Los Angeles, Calif.
(Member St. Louis Medical Society)
Somers, John E., Columbia
Sommer, Conrad S., St. Louis
Sommer, Ross B., St. Louis
Somoza, Jose, Kansas City
Sopuch, John A., St. Louis
Sosebee, Lee A., Columbia
Soto, Alberto A., Clayton
Soule, Samuel D., St. Louis
Spafford, Allen L., Kansas City
Spalding, David L., Springfield
Spalding, Donald G., St. Louis
Spalding, Wilber B., Plattsburg
Spalding, Wilber B., Jr., Kansas City
Sparkman, Thomas C., Cape Girardeau
Spears, Charles A., Branson
Spears, Joe L., Cabool
Spector, Gene W., St. Louis
Spencer, Andrew D., St. Louis
Spencer, Donald M., Independence
Speno, Angelo A., St. Louis
Spies, Barbara J., Kansas City
Spinzig, Edgar W., Kirkwood
Spiro, Joel M., Albany, N. Y.
(Member St. Louis Medical Society)
Spitz, Milton A., N. Miami, Fla.
(Member St. Louis County Medical Society)
Spitz, Richard H., St. Louis
Spoeneman, Marlin C., St. Louis
Spoenemann, Walter H., St. Louis
Sportsman, Weldon L., Smithville
Spratt, John S., Jr., Columbia
Spurgeon, Milo J., Columbia
Spurny, Otto M., Kansas City
Stacey, Wallace R., Independence
Stacy, Winton T., St. Joseph
Staehle, Melvin E., St. Louis
Stafford, Walter R., St. Louis
Stager, David R., Fort Leonard Wood
Staggs, William A., Kansas City
Staley, Harry R., Kansas City
Stallard, Donald J., St. Joseph
Stamp, Warren G., Charlottesville, Va.
(Member St. Louis Medical Society)
Stanfield, Ned M., Jr., St. Louis
Stansbrough, Raymond A., Normandy
Staple, Tom W., St. Louis
Starke, Helen, Kansas City, Kan.
(Member Jackson County Medical Society)
Starkloff, Gene B., St. Louis
Starkloff, Max, St. Louis
Statland, Harry, Kansas City
Statland, Morris, Kansas City
Staton, R. Hamilton, Carrollton
Stauffacher, C. Gordon, Sedalia
Stauffer, Harry B., Jefferson City
Steele, Jack T., St. Louis
Steele, James C., Jr., Hannibal
Steffen, Lawrence F., Kansas City
Stegman, Elmer G., Raytown
Stein, Arthur H., Jr., St. Louis
Stein, Harry J., St. Louis
Stein, Joseph W., Kansas City
Stein, Leonard P., St. Louis
Stein, Martin F., St. Louis
Steinbeck, Herbert D., Chappaqua, N. Y.
(Member Franklin-Gasconade-Warren County Medical Society)
Steinbeck, Herbert F., Montgomery City
Steinberg, Franz U., St. Louis
Steiner, Alexander J., St. Louis
Stelle, Charles W., Kansas City
Stelmach, Walter J., Kansas City
Stephens, LeRoy J., St. Louis
Stephens, William A., St. Louis
Stephenson, Hugh E., Jr., Columbia
Stergen, Nick E., Florissant
Sterkel, Richard L., St. Louis
Sterling, John A., Kirkwood
Stevens, Edward M., St. Joseph
Stevens, Robert W., St. Louis
Stewart, Frances H., St. Louis
Stewart, John W., St. Louis
Stewart, Mark A., St. Louis
Stewart, Robert B., Springfield
Stewart, Robert H., Sedalia
Stewart, R. Wendell, Springfield
Stewart, Wendell K., New York, N. Y.
(Member Cape Girardeau County Medical Society)
Stewart, William J., Columbia
Stickle, Arthur W., St. Louis
Stickler, Ralph O., Kirksville
Stindel, Charles E., St. Louis
Stockton, Raymond W., Kansas City
Stockwell, A. Lloyd, Kansas City
Stockwood, Robert C., Sedalia
Stohr, Paul E., San Antonio, Tex.
(Member St. Louis Medical Society)
Stokes, James M., St. Louis
Stolar, Jacob, St. Louis
Stone, Raymond F., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Stoneman, William, III, St. Louis
Storey, Gary A., St. Louis
Stotts, Charles S., Fredonia, Kan.
(Member Jackson County Medical Society)
Stoy, Robert P., Columbia
Stratemeier, Edward H., Kansas City
Stratman, Clarence A., N. Kansas City
Strauchen, Gilbert W., Key Largo, Fla.
(Member St. Louis County Medical Society)
Strauss, Arthur E., St. Louis
Strauss, Carl F., Kansas City
Streetor, Roderick D., St. Louis
Strehlman, Benjamin G., Union
Stribling, Thomas L., Independence
Stricker, Emil A., St. James
Stricker, Harold C., Jefferson City
Strobach, Robert L., Butler
Strominger, Donald B., St. Louis
Strong, Richard M., Hannibal
Stroud, Malcolm H., St. Louis
Stryker, Garold V., Venice, Fla.
(Member St. Louis Medical Society)
Stryker, William I., Ladue
Stuart, Byron M., Boonville
Stuart, Daniel D., Brunswick
Stuart, Wallace, St. Louis
Stuebner, Roland W., Marco Island, Fla.
(Member St. Louis County Medical Society)
Stueman, Lawrence G., Louisiana
Stufflebam, Robert E., Springfield
Sturtevant, Harwood N., Springfield
Stutsman, Albert C., St. Louis
Suba, Antonio R., St. Louis
Sudholt, Alfred F., Jr., St. Ann
Sueper, Robert H., St. Louis
Sugarbaker, Everett D., Jefferson City
Sullivan, Clement J., St. Louis
Summers, Caldwell B., Kansas City
Summers, John B., St. Louis
Summers, Joseph S., Jr., Jefferson City
Summers, Thomas F., St. Louis
Sunderman, Raymond C., St. Louis
Sundstrom, Frank D., Springfield
Sunshine, Herbert, St. Louis
Susanka, William D., St. Louis
Susman, Irvin C., St. Louis
Susman, Noah, St. Louis
Sutter, Richard A., St. Louis
Sutton, Richard L., Jr., Kansas City
Sweany, Henry C., Columbia
Sweet, Herbert C., Webster Groves
Sweiger, James H., Plattsburg
Swisher, Robert C., Kansas City
Switzer, Clyde, Overland Park, Kan.
(Member Jackson County Medical Society)
Swope, Joseph A., Webster Groves
Sword, Richard O., Kansas City
Sydow, Henry A., Fulton
Szabados, Ernest D., Independence
Szymanski, Stanley R., Macon

T

Talbert, Clifford R., Jr., Cape Girardeau
Tamblyn, Claire L., Kansas City
Tanaka, George M., St. Louis
Tanner, Robert H., Jefferson City
Tapp, Ernest M., Poplar Bluff
Tapper, Stephen M., St. Louis
Tarrasch, Ernest L., Springfield
Tarson, Solomon S., Overland Park, Kan.
(Member Jackson County Medical Society)
Tarver, Quinton, Kennett
Tarvydas, Francis, Edina
Tashma, Sigmund, St. Louis
Tasker, Charles B., Kansas City
Tatkow, Robert W., St. Louis
Taussig, Barrett L., St. Louis
Taute, Herman, St. Louis
Taveras, Juan M., St. Louis
Taylor, Eugene D., St. Louis
Taylor, Eugene T., St. Louis
Taylor, Helen L., St. Louis
Taylor, Leo T., Neosho
Taylor, Leon A., Jefferson City
Taylor, Van W., Bonne Terre
Taylor, William E., Springfield
Teare, Max E., Kansas City
Teiber, Frederick W., St. Louis
Tellez, Edward R., Fulton
Templeton, Arch W., Columbia
Tendai, Mark M., Kirksville
Tenpenny, J. W., Poplar Bluff
Ternberg, Jessie L., St. Louis
Terrill, Robert S., Kansas City
Terry, James F., Springfield
Terry, James W., Jr., Cape Girardeau
Tess, Melvin J. H., St. Louis
Tesson, James A., Kansas City
Thale, Thomas, St. Louis
Theel, Otto W., Jr., Kansas City
Thiel, J. Allen, St. Louis
Thiele, Belmont R., St. Louis
Thiele, George H., Kansas City
Thiele, Otto K., St. Charles
Thierauf, Charles G., St. Louis
Thies, Jerome H., Osceola
Thoma, George E., Jr., St. Louis
Thomas, Charles S., St. Louis
Thomas, Christopher Y., Kansas City
Thomas, Forrest, St. Joseph
Thomas, Horace E., Columbia
Thomas, Lewis J., Jr., St. Lous
Thomas, Robert M., Columbia

Thomas, Thomas C., Buckner
Thomasson, David D., Springfield
Thomasson, Robert E., St. Louis
Thompson, Charles L., Kansas City
Thompson, Emma A. B., Columbia
Thompson, F. Gregg, III, St. Joseph
Thompson, Ian M., Columbia
Thompson, J. William, St. Louis
Thompson, Lawrence D., St. Louis
Threlkeld, William L., Jr., Leopoldville, Congo
(Member Jackson County Medical Society)
Throgmorton, Howard B., Sikeston
Thurber, Claude M., Windsor
Thurman, Hill C., Parkville
Thurmann, Manfred, St. Louis
Thym, Henry P., Ballwin
Tibbs, William A., Jr., St. Louis
Tice, Wayne K., Independence
Tichenor, Robert W., St. Louis
Tietjen, Frederick O., Jefferson City
Tiffany, D. E., Mountain View
Till, Bennie N., Dexter
Tillman, Mary A. T., St. Louis
Tillman, Walter W., Jr., Springfield
Tindall, Robert N., St. Louis
Tinsley, John C., Jr., Columbia
Tiongson, Porfirio M., St. Louis
Tippett, Jack C., St. Louis
Titterington, Paul F., St. Louis
Tjoflat, Oliver E., St. Louis
Toalson, Larry D., Lincoln, Neb.
(Member Boone County Medical Society)
Tobias, Norman, St. Louis
Todd, Paul C., Marceline
Tombridge, Thomas L., Springfield
Tomlinson, William L., St. Louis
Tonelli, George L., St. Louis
Torin, Bernice A., University City
Totten, Frederick E., Kansas City
Tovar, Manuel, St. Joseph
Towers, Orville W., St. Charles
Townsend, Arthur M., III, St. Louis
Townsend, Vincent F., Clayton
Tracy, Herbert A., Belton
Treiman, Robert C., St. Louis
Tremain, Ernest E., Maplewood
Tremain, Irl G., St. Louis
Trigg, Joseph F., St. Louis
Trimble, George X., Kansas City
Triplett, Daniel A., Kansas City
Tripodi, Anthony M., Tacoma, Wash.
(Member St. Louis Medical Society)
Triska, Roland A., St. Louis
Troeh, Melvin R., Independence
Trotter, Francis O., Jr., St. Louis
Trotter, W. Yates, Springfield
Trowbridge, Barnard C., Kansas City
Trowbridge, Ellsworth H., Jr., Kansas City
Trueblood, Alva C., Jr., St. Louis
Trugly, Edith S., St. Louis
Trunko, Leo, St. Louis
Tsang, John L. K., Springfield
Tsifutis, Argyrios, Brentwood
Tucker, Eugene F., St. Louis
Tucker, George L., St. Louis
Tull, Frank, Sikeston
Tuma, Arthur T., Poplar Bluff
Turner, C. M., St. Louis
Turner, Glenn O., Springfield
Turner, James H., Poplar Bluff
Turner, James K., St. Louis
Turner, Kirby L., Potosi
Turner, Ronald M., Independence
Turner, Rush, St. Louis
Turner, William F., Poplar Bluff
Tutera, Dominic F., Kansas City
Tuthill, Herbert, Kansas City
Tuttle, Jay F., Fulton
Twedell, Donald L., St. Louis
Twin, Edward J., Kansas City
Twyman, Richard A., Kansas City
Tygett, Glenn J., Cape Girardeau
Tygett, Joseph N., Cape Girardeau

U

Uhlemeyer, Henry A., St. Louis
Ulett, George A., St. Louis
Ulett, Pearl C., St. Louis
Underwood, Dick H., Kansas City
Underwood, Harry A., Kansas City
Underwood, Johnson, Jr., Kansas City
Underwood, Ross H., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Unger, Harold. Kansas City
Ungvari, Joseph C., St. Louis
Upsher, Albert E., Kansas City
Urban, Edgar D., Sikeston
Utley, James H., St. Louis
Utterman, William F., Perryville

V

Vacea, Joseph B., St. Louis
Vail, A. Denton, Springfield
Valach, Frank J., Brentwood
Valins, Eugene, Kansas City
Valtierra, Cesar A., St. Louis
Van Biber, James T., Independence
Van Buskirk, Terrance E., Kansas City
Van Buskirk, William C., Kansas City
Vanderpearl, Robert H., St. Louis
Vandiver, Virgil D., Chillicothe
Vandover, John T., St. Louis
Van Dyke, Elmer H., Sedalia
VanGoidsenhoven, Guy, St. Louis
Van Matre, R. M., Washington, D. C.
(Member St. Louis Medical Society)
Van Norman, Robert T., St. Louis
Van Peenen, Hubert J., Columbia
Vart, Gary R., St. Charles
Vatterott, Paul B., St. Louis
Vaughan, J. Russell, St. Louis
Vaughn, Arthur N., St. Louis
Vaughn, James W., Kansas City
Velasco, Ernest, St. Louis
Venable, H. Phillip, St. Louis
Vensel, Lee H., Springfield
Verda, Dominic J., St. Louis
Vermeire, David A., Kansas City
Vermillion, Crofford O., St. Louis
Vescovo, Paul C., Jr., Kansas City
Vester, James E., Bismarck
Viers, Wayne A., St. Louis
Vilmer, Charles, Kansas City
Vincent, Jack C., Kansas City
Vinson, Harold A., Joplin
Vinyard, Jack L., Carrollton
Vinyard, Paul, St. Louis
Viraghaty, Julius G., Manchester
Virant, John A., St. Louis
Virden, Herbert, Kansas City
Viril, Leonardo C., Kansas City
Vitale, Anthony J., St. Louis
Vitale, Nicholas S., St. Louis
Vitt, Alvin E., St. Louis
Vitt, Edwin F., St. Louis
Viviano, Joseph G., St. Louis
Vollmar, Clarence J., Webster Groves
Von Kaenel, Joseph E., St. Louis
Voorhees, Carroll D., Leavenworth, Kan.
(Member Platte County Medical Society)
Votaw, Robert E., St. Louis
Voth, Harold W., Kansas City
Vournas, Christopher G., St. Louis

W

Wacker, Leo L., St. Louis
Waddell, Kenneth E., Springfield
Waddle, Theodore L., Dexter
Wade, Frederick E., Kansas City
Wade, James P., St. Louis
Wadlow, Ernest E., St. Joseph
Wagenbach, William F., Affton
Waggoner, Charles M., Columbia
Waggoner, Sharon E., St. Joseph
Wagner, Paul J., Kansas City
Wakefield, Franklin H., Kansas City
Wakeman, Jasper N., Springfield
Wakerlin, G. E., Columbia
Wald, Donald M., North Kansas City
Wald, Stanley M., St. Louis
Walker, Ambrose T., Mammoth Springs, Ark.
(Member South Central Counties Medical Society)
Walker, Francis S., St. Louis
Walker, George S., Clinton
Walker, Harvey, Jr., St. Louis
Walker, Hugh B., Clinton
Walker, J. Leslie, St. Louis
Walker, James C., Kansas City
Walker, John W., Kansas City
Walker, Orville C., Jr., Independence
Walker, Paul W., Joplin
Walker, Willard B., Clayton
Walker, William M., Springfield
Wall, Emmett D., St. Louis
Wall, Harry C., Kansas City
Wall, Joe A., Houston
Wall, Leonard A., Kansas City
Wallace, Edgar S., Mexico
Wallace, Hilen K., St. Joseph
Wallace, John K., II, Jefferson City
Walsh, James W., St. Louis
Walsh, Theodore E., St. Louis
Walsh, Thomas J., St. Louis
Walter, Archie L., Sedalia
Walter, Kenneth E., St. Louis
Walter, William L., St. Louis
Walters, Harold E., St. Louis
Walters, Henry W., St. Louis
Walters, John H., Columbia
Walters, Laura, Columbia
Walters, William H., St. Louis
Walterscheid, John H., Hannibal
Walther, Roy A., Jr., St. Louis
Walton, Franklin E., St. Louis
Walton, Marion C., Mountain View
Waltrip, Roy T., Jr., Sikeston
Wamsley, James R., Creve Coeur
Wanamaker, John M., Rock Port
Ward, Joe, Lexington
Ward, Robert L., Poplar Bluff
Ward, Robert L., Kansas City
Warren, T. Thomas, Potosi
Warres, Herbert L., Springfield
Washburn, J. Loren, Versailles
Washington, Edward L., Columbia
Wasserman, Helman C., St. Louis
Waterfield, Jim R., Springfield
Waterman, Franklin M., Liberty
Waters, E. Burton, Defiance
Waters, Hugh R., St. Louis
Watkins, George L., Jr., Farmington
Watson, Cecil L., Marshall
Watson, Ethel, Independence
Watson, Trevor F., Columbia
Wattenberg, Carl A., St. Louis
Watts, Byron E., Jefferson City
Waxman, David, Kansas City
Waxman, Herbert J., Kansas City
Waxman, Jane Z., Kansas City
Wayland, Thomas A., Camdenton
Wayne, Sherwyn J., St. Louis
Webb, Harry E., Kansas City
Webb, Joan L., Columbia
Webb, Leslie R., Jr., Springfield
Webb, Marion A., St. Louis
Webb, Paul B., St. Louis
Webb, Paul B., Jr., St. Louis
Webb, Paul K., St. Louis
Weber, J. R., St. Louis
Weber, Sol, St. Louis
Weber, William K., Bridgeton
Weed, Randal W., St. Joseph
Weeks, George R., Cape Girardeau
Weiford, Edward C., Kansas City
Weigensberg, Irving J., St. Louis
Weiler, Thomas J., St. Louis
Weinand, Ernest E., St. Joseph
Weinel, Francis G., St. Louis
Weinhaus, Robert S., St. Louis
Weinsberg, William C., St. Louis
Weir, Don C., St. Louis
Weir, Robert K., Kansas City
Weir, R. S., Bethany
Weir, Royal A., St. Louis
Weis, Matthew W., Villa Ridge
Weisbrod, Wilfred B., St. Louis
Weisman, Renate D., St. Ann
Weisman, Sol, St. Louis
Weiss, James M. A., Columbia
Weiss, Stuart, St. Louis
Well, Julius W., Palmyra
Weller, Lynn D., Kansas City
Wells, James A., Kansas City
Wells, John H., Kansas City
Welsh, Laurence C., St. Louis
Weltscheff, Christo A., Kansas City
Wempe, G. Raymond, Maryville
Wenneker, Alvin S., St. Louis
Wentzel, Louis R., St. Louis
Werner, Dean F., N. Kansas City
Werner, Franklin C., Kansas City
Werner, William A., St. Louis
Wessler, Stanford, St. Louis
West, Joseph W., St. Louis
Westerfeld, Roy A., St. Charles
Westerman, Henry C., St. Louis
Westrup, Ellsworth A., Webster Groves
Wetzel, Fred S., Jr., Little Rock, Ark.
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Weyerich, Leon F., St. Louis
Weygandt, Glenn R., St. Louis
Wheeler, Charles B., Kansas City
Wheeler, John H., Kansas City
Wheeler, Paul C., Columbia
Wheeler, Robert L., Harrisonville
Whitaker, Topsy H., East Prairie
White, Barry B., Poplar Bluff
White, Charles H., Kansas City
White, George A., Kansas City
White, James S., Kansas City
White, Newton B., Kirkwood
White, Orville O., St. Louis
White, R. Ned., Springfield
White, Stoughton F., Kansas City
White, William E., Kansas City
White, William H., Jr., St. Louis
Whiteman, John R., Kansas City
Whitener, Miles C., St. Louis
Whitener, Paul R., St. Louis
Whitman, Doyle C., Kansas City

Whitmore, J. Stewart, Kansas City
Whitsell, Ora E., St. Joseph
Whittaker, Charles K., Kansas City
Whitten, Marion F., Carthage
Whittico, James M., St. Louis
Wicks, Edwin O., Kansas City
Wiedershine, Leonard J., St. Louis
Wiegand, Herbert C., St. Louis
Wieman, Harry K., Joplin
Wien, Irving A., Kansas City
Wiese, Harry W., St. Louis
Wiggins. Roland L., Columbia
Wilber, Robert D., Kansas City
Wilbers, Raymond H.. St. Louis
Wilcox, Ruth E., Joplin
Wilcoxen, William B., Bowling Green
Wiles, Jack N., West Plains
Wilhelm, Warren F., Kansas City
Wilkinson, Charles B., Kansas City
Wilkinson, Everett A., Kansas City
Will, Leo A., Venice, Fla.
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Williams, Carol F., St. Louis
Williams, Frank R., Kansas City
Williams, George P., Kansas City
Williams, Jerome, St. Louis
Williams, John M., Liberty
Williams, John W., Oak Grove
Williams, John W., Springfield
Williams, John W., Jr., Springfield
Williams, Joseph C., Jr., Kansas City
Williams, Ray D., St. Louis
Williams, Robert D., Smithville
Williams, Robert S., Mexico
Williams, Roland D., Kansas City
Williams, Starks J., Kansas City
Williams, Thomas A., Kansas City
Williams, W. A., Jr., Cape Girardeau
Williamson, George L., Kansas City
Williamson, Joseph R., St. Louis
Williamson, Walter E., St. Louis
Willits, Lyle G., Kansas City
Willman, Charles R., St. Joseph
Willman, Vallee L., St. Louis
Willoughby, James W., Kansas City
Willoughby, Jean B., Kansas City
Willumsen, Henry C., St. Joseph
Wilson, Alice H., Joplin
Wilson, Charles F., Cape Girardeau
Wilson, Clifford C., Kansas City
Wilson, Fred K., Winston
Wilson, George P., Columbia
Wilson, Hester J., Kansas City
Wilson, Hugh M., St. Louis
Wilson, John E., Columbia
Wilson, Keith S., St. Louis
Wilson, Loys C., Kennett
Wilson, Roy E., Springfield
Wilson, Vernon E., Columbia
Wilucki, Leo E., St. Louis
Wilucki, Melvin R., St. Louis
Wimmer, Warren J., St. Louis
Windmiller, Myrl E., Columbia
Windsor, Charles E., St. Louis
Winegar, Alvon C., Jefferson City
Winer, Herbert J., Kansas City
Winkelman, Esther B., Kansas City
Winn, George W., Boonville
Winokur, George, St. Louis
Winston, Bernard H., Kansas City
Winter, John H., St. Louis
Winter, Tyrus D., St. Louis
Winterer, Roland A., St. Louis
Winterling, Charles A., St. Louis
Winters, Kathleen, St. Louis
Wipfler, Earl J., Jr., St. Charles
Wippo, Edgar W., St. Louis
Wirthlin, Edward H., St. Louis
Wise, George W., Kansas City
Wise, Gordon F., Springfield
Wissmath, Frank S., Clayton
Wissner, Seth, St. Louis
Withers, Orval R., Kansas City
Withrow, John B., Kansas City
Witt, Clyde M., St. Louis
Witt, Frederick W., St. Louis
Witte, Marlys H., St. Louis
Wittgen, Edward M., St. Louis
Wittler, Harry A., St. Louis
Wittmer, Samuel C., Springfield
Wolcott, Lester E., Columbia
Wolf, Jack W., Kansas City
Wolfe, Edward, St. Louis
Wolff, Harold D., St. Louis
Wolff, Paul G., Cape Girardeau
Wolff, Ray J., St. Louis
Wolfgram, Edwin D., St. Louis
Wollschlaeger, Gertraud, Columbia
Wollschlaeger, Paul, Columbia
Womack, Granville J., Chesterfield
Wommack, Fred L., Crane
Wong, George, Jr., Springfield
Wood, Bennett R., St. Louis
Wood, George F., Fulton
Wood, George H., Carthage
Wood, James A., Clayton
Wood, William W., Springfield
Woodbridge, John H., St. Louis
Woodman, Grey M., Kansas City
Woodruff, Calvin W., Columbia
Woodruff, Robert A., Jr., St. Louis
Woods, Harold V., Blue Springs
Woods, Ralph E., Clayton
Woods, S. Dwight, Kansas City
Woods, Walton C., Kansas City
Woodward, William W., Independence
Wool, Gerald, Seattle, Wash.
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Wooldridge, Bart F., Joplin
Wooldridge, Wilfred E., Springfield
Woolf, Ralph B., St. Louis
Woolsey, Joyce E., St. Louis
Woolsey, Robert M., St. Louis
Word, Parker H., St. Louis
Workman, Charles E., Kansas City
Workman, George M., Hermann
Worley, Charles A., Sweet Springs
Wortmann, Robert F., Kansas City
Wotawa, William J., St. Louis
Wray, Rolla B., Nevada
Wright, Earl J., Kansas City
Wright, Robert P., Kansas City
Wu, William Q., Kansas City
Wulff, George J. L., Jr., St. Louis
Wurr, Dieter, Arnold
Wurster, W. Joel, Kansas City
Wyatt, Lois C., Kirkwood

Y

Yaeger, Gerald A., St. Charles
Yancey, Daniel L., Springfield
Yang, Jae H., St. Louis
Yanow, Mitchell, St. Louis
Yap, Mardonio J. R., Jennings
Ylagan, Amando, Jr., St. Louis
Yohe, Ruth M., Kansas City
Yore, Richard W., St. Louis
Yoskit, Harry, Festus
Youll, Donald V., Kansas City
Youmans, Ronald A., Kansas City
Young, Calvin C., Jr., Joplin
Young, James E., Kansas City
Young, Jesse W., Kansas City, Kansas
(Member Jackson County Medical Society)
Young, Paul R., Kansas City
Young, Robert B., Rolla
Young, Robert H., Moberly
Youngblood, James P., Kansas City
Younge, Walter A., St. Louis
Younger, Anita, St. Louis
Younger, Ernest, St. Louis
Yuan, Louis S. K., St. Louis
Yuen, Pun Fai, Lawton, Okla.
(Member Boone County Medical Society)

Z

Zacharias, David L., Kansas City
Zahn, Robert L., Springfield
Zahony, Ivan, Prairie Village, Kan.
(Member Jackson County Medical Society)
Zahorsky, Theodore S., St. Louis
Zeffren, Joel L., St. Louis
Zekert, Horst, St. Louis
Zellermayer, Jacob, Kansas City
Ziegelmeyer, John S., St. Louis
Ziegler, Anthony, Jr., Vandalia
Zillgitt, George H., St. Louis
Zimmerman, Herbert B., St. Louis
Zimmerman, Joseph A., Kennett
Zingale, Frank G., St. Louis
Zink, Oscar C., St. Louis
Zografakis, George H., St. Louis
Zuckner, Jack, St. Louis
Zukowski, Edward T., Chesterfield
Zwart, Claude H., St. Louis
Zwirn, Benjamin H., St. Louis

Roster of Members by County Societies

ADAIR COUNTY
(North Central Counties Medical Society)

ANDREW COUNTY MEDICAL SOCIETY
(Savannah 64485)

Baker, Warren C., Savannah
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah

ATCHISON COUNTY
(Northwest Missouri Medical Society)

AUDRAIN COUNTY MEDICAL SOCIETY
(Mexico 65265)

Boyce, John M., 620 E. Monroe St.
Bradley, William W., Centralia 65240
Davis, Leonard L., Jr., 1415 S. Morris St.
Dwyer, Thomas L., 119 E. Love St.
Ector, Henry J., 314 S. Trinity St.
Ekern, H. Peter, 1415 S. Morris St.
Epple, Kathryn C., 502 E. Monroe St.
Epple, Lawrence K., 502 E. Monroe St.
Gantt, Ernest S., Jr., 105a W. Monroe St.
Garcia, Charles L., Mexico
Jolly, Benjamin N., 112 N. Clark Ave.
Jolly, William H., 112 N. Clark Ave.
Kallenbach, Glen P., 321 N. Washington St.
Lankford, Harold D., 117 E. Monroe St.
O'Brien, Harry F., Mexico
Rodes, Ned D., Mexico
Rouse, David M., 212 E. Monroe St.
Wallace, Edgar S., 210 E. Monroe St.
Williams, Robert S., Kemper Bldg.
Ziegler, Anthony, Jr., Vandalia 63382

BARRY COUNTY
(Ozarks Medical Society)

BARTON-DADE COUNTY MEDICAL SOCIETY

Arnold, Herbert M., Lamar 64759
Bauer, Harold A., Lockwood 65682
Bickel, Vern T., Lamar 64759
Cain, Alvin R., Lamar 64759
Carroll, Thomas W., Lamar 64759
Guldner, Edmond, Lamar 64759
McNeel, Lee A., Jr., Greenfield 65661

BATES COUNTY
(West Central Missouri Medical Society)

BENTON COUNTY MEDICAL SOCIETY

Logan, James A., Warsaw 65355

BOLLINGER COUNTY
(Unorganized)

BOONE COUNTY MEDICAL SOCIETY
(Columbia 65201)

Adams, Harold D., 213 W. Broadway
Albera, Victor H., 813 B. Again
Allen, Joseph E., Professional Bldg.
Allen, Robert W., Rt. 2, St. Charles Rd.
Allen, William C., 508 W. Briarwood Lane
Almond, Carl H., 807 Stadium Rd.
Altman, Harold, 2100 E. Broadway
Amlinger, Philipp R., 1118 W. Rollins Rd.
Anderson, Ivan A., 606 Medavista
Anderson, Philip C., 807 Stadium Rd.
Anderson, Thomas R., 822 Yale St.
Arnold, Richard C., P. O. Box 53
Asel, Norman D., 807 Stadium Rd.
Baker, A. Sherwood, 807 Stadium Rd.
Baker, James M., 16 S. 10th St.
Battersby, Richard S., Candle Light Lodge
Bingham, Hal G., 807 Stadium Rd.
Black, Samuel P. W., 300 S. Glenwood St.
Brooke, Clement E., 901 Edgewood Ave.
Brukardt, Diane, Student Health Service
Bruner, Claude R., 909 University Ave.
Buesseler, John A., 807 Stadium Rd.
Bumgarner, James E., 1504 E. Broadway
Bumgarner, Roger W., Route 1
Burkcholder, James N., 807 Stadium Rd.
Burns, Thomas W., 310 E. Brandon Rd.
Bynum, William R., 1504 E. Broadway
Cartwright, Robert S., 605 Hulen Dr.
Chalkley, Judson I., Boone County Hosp.
Chapman, Charles L., 313 E. Briarwood
Cheek, Charles W., 113 W. Broadway
Chiasson, E. Chaille, 203 W. Broadway
Cochran, Donald Q., 1502 E. Broadway
Colwill, Jack M., 1105 S. Glenwood Ave.
Cook, Galen B., 1005 Cowan Dr.
Cooper, Maurice E., 1000 Wayne Rd.
Cope, James C., 1502 E. Broadway
Crosby, Alice S., 2019 Crestridge Dr.
Culley, Thomas S., 807 Stadium Rd.
Darnell, Thomas F. B., Doctors Clinic Bldg.
Davis, David, 801 Crestland Ave.
Denninghoff, James C., 201 W. Broadway
Dernoncourt, John E., P.O. Box 289, Smithville 64089
DeWeese, Marion S., 807 Stadium Rd.
Dexheimer, Frank R., 113 W. Broadway
Dietrich, Karl D., 909 University Ave.
Donegan, Judith H., University of Missouri Medical Center
Donegan, William L., Ellis Fischel Cancer Hosp.
Eggers, George W. N., Jr., 807 Stadium Rd.
Ferneau, James E., 113 W. Broadway
Froelich, Robert E., 807 Stadium Rd.
Fuchs, George J., Jr., 1504 E. Broadway
Galeota, William R., 807 Stadium Rd.
Garb, Solomon, 807 Stadium Rd.
Garrett, Glen H., 909 University Ave.
Gaunt, William D., 807 Stadium Rd.
Griffin, Donald R., 807 Stadium Rd.
Griffin, William T., 807 Stadium Rd.
Grunberg, Emile, 411 Bourn Ave.
Hall, David G., 807 Stadium Rd.
Hanna, Fikri M., 708 Hilltop Dr.
Hardwicke, Henry M., Ashland 65010
Harris, Hugh S., Jr., Ellis Fischel State Cancer Hospital
Harris, Robert J., 2008 Hazelwood Dr.
Hart, William M., 807 Stadium Rd.
Hubbell, Ira G., 302 McNab Dr.
Ide, Carl H., 600 Laurel Dr.
Jackson, Robert L., 807 Stadium Rd.
Johnson, Richard E., Boone County Hosp.
Keown, Kenneth K., 807 Stadium Rd.
Kerr, S. Earl, 1308 Fieldcrest
Kubin, Milford T., Meadow Lark, R.F.D. 4
LaChance, Leopold, Centralia 65240
Ladenson, Roland P., 16 S. 10th St.
Landhuis, L. R., 807 Stadium Rd.
Landor, John H., 807 Stadium Rd.
Lee, Yeu-Tsu, Ellis Fischel State Cancer Hospital
Leech, Charles A., 1504 E. Broadway
Leeper, Sidlee W., 1504 E. Broadway
Lewis, Ray B., 1502 E. Broadway
Lindberg, Donald, 902 S. Glenwood
Litton, Lynn O., Route 3
Litwiller, R. W., 1312 W. Broadway
Logue, John T., 1504 E. Broadway
Lowry, Roberta L., 807 Stadium Rd.
Lucas, Fred V., 807 Stadium Rd.
McElroy, Glenn L., 1504 E. Broadway
McEntyre, James M., 2000 S.W. 16th St., Apt. 73, Gainesville, Fla. 32601
Mackenzie, James W., 807 Stadium Rd.
Marco, Philip J., 807 Stadium Rd.
Marienfeld, Carl J., 807 Stadium Rd.
Martin, Richard H., 807 Stadium Rd.
Martt, Jack M., 807 Stadium Rd.
Mayer, William D., 1001 Lakeshore Dr.
Mercado, Raul, Jr., 513 Shady Ave. No. 21, Pittsburgh, Pa. 15206
Metzgar, Marshall T., 807 Stadium Rd.
Miller, Leroy J., 1502 E. Broadway
Minnigerade, Turner L., 11 S. Williams
Mitchell, Franklin L., 810 Greenwood Ct.
Mitchell, Lynn D., 1502 E. Broadway
Moranville, Benedict A., 1504 E. Broadway
Mosby, Larry D., 1704 Jackson
Muniz, Carlos E., 116 Tracy Dr.
Neal, M. Pinson, 807 Stadium Rd.
Overholser, Milton D., 807 Stadium Rd.
Parrish, Henry M., 807 Stadium Rd.
Payne, David E., 804 Moon Valley Rd.
Payne, John W., 1504 E. Broadway
Pearman, Carl C., 923 College Park
Perez-Mesa, Carlos, Ellis Fischel State Cancer Hosp.
Perez-Tamayo, Ruheri, Ellis Fischel State Cancer Hospital
Pfefer, Leland U., 1504 E. Broadway
Pickard, Clarence M., 113 W. Broadway
Pingelton, William B., 113 W. Broadway
Plumlee, John E., 807 Stadium Rd.
Pugh, Reginald P., 1008 Hickory Hill Dr.
Rall, Kenneth L., 1121 Danforth Dr.
Ridenhour, C. E. Gene, 1408 Pearl
Rikli, Arthur E., 406 Turner
Rink, Richard A., 807 Stadium Rd.
Roark, Glenn E., Student Health Service
Rodgers, Elrie P., Box 157
Ross, Gilbert, Jr., 807 Stadium Rd.
Russell, Garth, 1504 E. Broadway
Scheuber, Charles, 1504 E. Broadway
Schewe, Elmer J., Jr., 1232 Sunset Dr.
Schwartz, John T., 807 Stadium Rd.
See, William B., 1504 E. Broadway
Senhauser, Donald A., 807 Stadium Rd.
Sheppard, Lee C., Jr., 16 Ayers Dr., Jackson, Tenn. 38301
Sights, Warren P., Jr., 807 Stadium Rd.
Silberman, Henry K., Dept. of Psychiatry, University of Missouri Medical Center
Simmons, Earl M., Jr., Lewis & Clark Residence Hall
Smith, Grafton A., 917 Crestland Ave.
Smith, Jason N., Jr., 701 West Blvd. S.
Smith, Joe R., 1506 E. Broadway
Somers, John E., 807 Stadium Rd.
Sosebee, Lee A., 1504 E. Broadway
Spratt, John S., Jr., 105 S. Glenwood Ave.
Spurgeon, Milo J., 404 Edgewood Ave.
Stephenson, Hugh E., Jr., 807 Stadium Rd.
Stewart, William J., 909 University Ave.
Stoy, Robert P., 201 W. Broadway
Templeton, Arch W., 1201 Sunset Dr.
Thomas, Horace E., 1504 E. Broadway
Thomas, Robert M., 113 W. Broadway
Thompson, Ian M., 807 Stadium Rd.
Tinsley, John C., Jr., 16 S. Tenth St.
Toalson, Larry D., 3500 Stockwell, Lincoln, Neb. 68506
VanPeenen, Hubert J., 807 Stadium Rd.
Waggoner, Charles M., 201 W. Broadway
Wakerlin, G. E., 406 Turner Ave.
Walters, John H., 11 S. Williams St.
Walters, Laura, 11 S. Williams St.
Washington, Edward L., 1504 E. Broadway
Watson, Trevor F., 1504 E. Broadway
Webb, Joan L., 807 College Park
Weiss, James M. A., 807 Stadium Rd.
Wheeler, Paul C., Univ. of Mo. Med. Center
Wiggins, Roland L., 408 N. Garth
Wilson, George P., 201 W. Broadway
Wilson, Vernon E., U. of Mo., Lewis Hall, Room 120
Windmiller, Myrl E., 1504 E. Broadway
Wolcott, Lester E., 2417 Beachview Dr.
Wollschlaeger, Gertraud, 1718 E. Broadway
Wollschlaeger, Paul, 1718 E. Broadway
Woodruff, Calvin W., 807 Stadium Rd.
Yuen, Pun Fai, Lawton Indian Hospital, Lawton, Okla. 73501

BUCHANAN COUNTY MEDICAL SOCIETY
(St. Joseph)

Acuff, R. Philip, 702 Jule St. 64501
Allaman, John M., 524 Spoonhill Dr. N., Bird Key, Sarasota, Fla.
Ames, Mary B., 2318 Lovers La. 64505
Ames, William H., 902 Edmond St. 64501
Augustine, Robert W., 902 Edmond St. 64501
Beck, Paul M., Kirkpatrick Bldg. 64501
Beheler, Edward M., 2405 Frederick Ave. 64501
Benson, Scott C., 324 N. 6th St. 64501
Berney, Francis J., Kirkpatrick Bldg. 64501
Boteler, George M., 422 W. 47th St., Kansas City 64112
Bristow, Robert B., Physicians & Surgeons Bldg. 64501
Bryant, Sydney L., 902 Edmond St. 64501
Butler, Elza F., 902 Edmond St. 64501
Callman, George, State Hosp. No. 2 64502
Carpenter, George T., 902 Edmond St. 64501
Challener, William A., III, 902 Edmond 64501
Christ, Martin H., 6106 King Hill Ave. 64504
Cox, John P., 902 Edmond St. 64502
Craig, Owen W. D., Kirkpatrick Bldg. 64501
Craig, Richard O., 3900 Miller Rd. 64505
Day, Maxwell, 1353 Buchanan Ave. 64501
DuMont, Clement C., 1905 Francis St. 64501
Ferguson, Luther J., 2907 Francis St. 64501
Fisher, Joseph L., 7th & Jule Sts. 64501
Forgrave, John R., 420 N. 8th St. 64501
Forgrave, Leon P., 420 N. 8th St. 64501
Forman, George W., P.O. Box 830 64502
Fuson, Levi H., Kirkpatrick Bldg. 64501
Grant, Claude S., 1302 Faraon St. 64501
Greenberg, Charles, 10669 Rochester Ave., Los Angeles, Calif. 90024

Crimes, Manning E., Kirkpatrick Bldg. 64501
Cunter, Joe S., 902 Edmond St. 64501
Handler, Eric, Physicians and Surgeons Bldg. 64501
Harner, Casper C., 902 Edmond St. 64501
Hayes, Paul W., 902 Edmond St. 64501
Herman, Allen I., Physicians and Surgeons Bldg. 64501
Hughes, Judson M., 1316 Woodhill Rd., Columbia 65201
Ide, Lucien W., P. O. Box 830 64502
Jimenez, Jose, 1004 Rush Road 64502
Kieber, Robert W., Kirkpatrick Bldg. 64501
Kline, Carlyn M., 17 Stonecrest St. 64506
Kline, Edmund W., 510 Francis St. 64501
Knepper, Paul A., 902 Edmond St. 64501
Kulowski, Jacob, 2404 Highly St. 64506
Lee, Carleton H., 1402 Faraon St. 64501
Lehman, Philip C., 510 Francis St. 64501
McCaffree, Mary K., 510 Francis 64501
McDaniel, John R., 902 Edmond St. 64501
McDonald, Wilbur P., 301 N. 8th St. 64501
Maginn, Richard L., 702 Jule St. 64501
Marston, F. James, Jr., 902 Edmond St. 64501
Martin, John N., Physicians and Surgeons Bldg. 64501
Minton, Robert S., Log Cabin #1, Fortescue 64452
Moen, Berwyn H., 902 Edmond St. 64501
Morse, Marvin, 2702 Faraon St. 64501
Mothershead, John L., 2603 Frederick Ave. 64501
Muench, Albert H., Physicians and Surgeons Bldg. 64501
Mundy, Homer F., State Hospital No. 2 64502
Ness, Carl K., 902 Edmond St. 64501
O'Brien, Liam, State Hospital No. 2 64502
O'Connor, William B., 510 Francis St. 64501
Petersen, Harold E., 2401 Frederick Ave. 64501
Pfeffer, Robert I., 1915 N. 29th St. 64506
Pifer, Lawrence H., 1302 Faraon St. 64501
Potter, Caryl A., Jr., Pioneer Bldg. 64501
Potter, Thompson E., 731 Faraon St. 64501
Redmond, William, Corby Bldg. 64501
Riddell, Richard V., 902 Edmond St. 64501
Roberts, Phyllis Grant, 3314 Linda La. 64506
Rogers, John T., 2502 Ashland Ave. 64506
Rosenthal, Irvin I., 2715 Union Ave. 64506
Rost, William B., 2221 N.W. Extension Blvd. 64506
Ryan, John H., 301 N. 8th St. 64501
Senne, Herbert C., 223 N. 7th St. 64501
Senor, Samuel E., 722 Francis St. 64501
Shevlin, Charles F., 902 Edmond St. 64501
Sklenar, Donald E., 228 Illinois Ave. 64504
Stacy, Winton T., 1215 N. 24th St., 64506
Stallard, Donald J., 902 Edmond St. 64501
Stevens, Edward M., 702 Jule St. 64501
Thomas, Forrest, State Hosp. No. 2 64502
Thompson, F. Gregg, Jr., P. O. Box 830 64502
Thompson, F. Gregg, III, 902 Edmond St. 64501
Tovar, Manuel, 13th & Faraon St. 64501
Wadlow, Ernest E., 510 Francis St. 64501
Waggoner, Sharon E., 301 Illinois Ave. 64504
Wallace, Hilen K., 5th and Francis St. 64501
Weed, Randal W., 702 Jule St. 64501
Weinand, Ernest E., 902 Edmond St. 64501
Whitsell, Ora E., 802 N. 23rd St. 64506
Willman, Charles R., 2405 Frederick Ave. 64501
Willumsen, Henry C., 902 Edmond St. 64501

BUTLER-WAYNE-RIPLEY COUNTY MEDICAL SOCIETY
(Poplar Bluff 63901)

Barbour, Marvin R., Kneibert Clinic
Beecher, Sheldon B., 1517 Rosedale Ave.
Biggs, Fred J., Jr., Kneibert Clinic
Brookreson, Alton D., 700 Hendrix Dr.
Brookreson, Alton F., 217 Oak St.
Caldwell, Fred, Kneibert Clinic
Camp, Richard V., Jr., 330 N. Second St.
Canlas, Emilio M., 705 Pine Blvd.
Cline, Harold H., Piedmont 63957
Dinelli, Frank E., 215 Oak St.
Engelhardt, Robert C., Kneibert Clinic
Cernstetter, Sangwill L., P. O. Box 473
Hansbrough, Eugene T., 623 Pine Blvd.
Harwell, J. Lester, VA Hospital
Hecker, Joseph E., Kneibert Clinic
Hoja, W. Alexander, Kneibert Clinic
Kneibert, Fred L., Kneibert Clinic
Ladyman, George H., 623 Pine St.
Leroux, Gene, Doniphan 63935
Loughead, John R., 330 N. 2nd St.
McLain, Bobby M., Route 2
McLane, Jerry F., 330 N. 2nd St.
McPheeters, James W., Sr., 330 N. 2nd St.
Macauley, Bernard J., 215 Oak St.
Markel, Arthur D., Kneibert Clinic
May, Albert L., Jr., 330 N. 2nd St.
Miller, David V., Kneibert Clinic
Moore, Dan B., 1406 Woodland Rd.
Parker, Arthur C., Jr., Kneibert Clinic
Post, Cyril A., 123 S. Broadway
Raper, Charles A., 330 N. 2nd St.
Robertson, William D., Poplar Bluff 63901
Ruff, T. Eugene, Kneibert Clinic
Tapp, Ernest M., 634 Pine Blvd.
Tenpenny, J. W., 217 Oak St.
Tuma, Arthur T., 215 Oak St.
Turner, James H., 217 Oak St.
Turner, William F., 217 Oak St.
Ward, Robert L., 623 Pine
White, Barry B., 330 N. 2nd St.

CALDWELL COUNTY
(Grand River Medical Society)

CALLAWAY COUNTY MEDICAL SOCIETY
(Fulton 65251)

Brown, John J., 101 E. 6th St.
Brown, Katherine S., 1304 Vine St.
Cremer, William J., State Hosp. No. 1
Crews, Robert N., 612 Court St.
Durst, Henry, 610 Court St.
Cish, Rutledge, 5 E. 5th St.
Croce, George, 820 Jefferson St.
Hill, James E., 820 Jefferson St.
Jackson, Vernon B., State Hosp. No. 1
Kepler, Earl C., 207 Lee
Osbourn, Richard A., 102 Saults Addition
Peterson, Donald B., State Hosp. No. 1
Ritterbusch, James K., State Hosp. No. 1
Sydow, Henry A., 607 Court St.
Tellez, Edward R., 10 E. Reed St.
Tuttle, Jay F., State Hosp. No. 1
Wood, George F., 614 Market St.

CAMDEN COUNTY

Carnell, B. M., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Garrison, T. W., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Holley, Donald B., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Wayland, Thomas A., Camdenton 65020 (Member Cole County Medical Society)

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY
(Cape Girardeau 63701)

Alyea, J. O., 937 Broadway
Ashley, Hugh V., 234 N. Sprigg St.
Ashley, Hugh V., Jr., 234 N. Sprigg St.
Bahn, Charles F., 1902 W. Broadway
Barnes, Seth S., 1854 Broadway
Blankenship, Dale M., 1930 Broadway
Burford, Edwin K., Jr., 937 Broadway
Campbell, Edward D., 937 Broadway
Chapman, Jean A., 1902 W. Broadway
Cochran, Jo R., 24 N. Sprigg St.
Crowe, John T., 937 Broadway
Dinkins, James A., 937 Broadway
Elrod, Dennis B., 211 N. Sprigg St.
Estes, Albert M., 714 Broadway
Hall, Frank W., 1912 Broadway
Herbert, Charles T., 824 Good Hope St.
Holcomb, John K., 24 N. Sprigg St.
Hoxworth, Gerald M., 210 Christine St.
Jaeger, Joseph N., 208 S. High St., Jackson 63755
Johnson, Earl W., 927 Broadway
Jung, J. Marshall, 7153 Frakes, San Diego, Calif. 92111
Kasten, Melvin C., 1209 Sailer Circle
Keim, John H., 230 N. Sprigg St.
Kinder, James A., 937 Broadway
Kinder, Jerry L., 1834 Broadway
Kratz, Paul E., 2560 Gordonville Rd.
Lovinggood, Thomas A., 649 Sylvan La.
McDonald, Eugene F., 125 Court St., Jackson 63755
McGinty, Charles P., 1834 Broadway
Magaletta, George E., 937 Broadway
Nunnelly, Gordon M., 1924 Broadway
Nussbaum, Paul B., 1858 Broadway
Nussbaum, Paul S., 1858 Broadway
Oehler, William F., 213 N. Sprigg St.
Otto, Thomas C., 1912 Broadway
Parsons, D. LeRoy, 24 N. Sprigg St.
Rapp, Harold B., 1011 N. Henderson St.
Rawlins, Fred E., 1607 Berthing Ave.
Reynolds, Garland A., P. O. Box 817
Ridings, Harold D., 937 Broadway
Ritter, Raymond A., 1912 Broadway
Seabaugh, Dayton I. L., 106 E. First N., Jackson 63755
Seabaugh, L. R., 219 N. Pacific St.
Seabaugh, Oda L., 24 N. Sprigg St.
Seabaugh, William O. L., 24 N. Sprigg St.
Shoss, Milton, 937 Broadway
Sparkman, Thomas C., 210 Christine St.
Stewart, Wendell K., U. S. Naval Hosp., Box 36, FPO New York, N. Y. 09593
Talbert, Clifford R., 1902 Broadway
Terry, James W., Jr., 219 N. Pacific St.
Tygett, Glenn J., 215 N. Sprigg St.
Tygett, Joseph N., 1834 Broadway
Weeks, George R., 937 Broadway
Williams, W. A., Jr., 24 N. Sprigg St.
Wilson, Charles F., 714 Broadway
Wolff, Paul C., 1819 Broadway

CARROLL COUNTY
(Grand River Medical Society)

CARTER-SHANNON COUNTY MEDICAL SOCIETY

Rollins, Harry D., Winona 65588

CASS COUNTY
(West Central Missouri Medical Society)

CEDAR COUNTY
(West Central Missouri Medical Society)

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

Arnold, Eugene L., 8338 Jennings Rd., Jennings 63136
Baker, Josephine D., Moberly 65270
Barnett, Floyd A., Paris 65275
Campbell, James E., Macon 63552
Chute, W. Deward, Moberly 65270
Cohrs, Clarence C., Moberly 65270
Collins, Gretchen D., Macon 63522
Dreyer, Philip V., Huntsville 65259
Eggleston, Donald E., Macon 63552
Fleming, J. Will, Jr., Moberly 65270
Fleming, Thomas S., Moberly 65270
Harms, Florian L., Salisbury 65281
Hasson, Robert, Moberly 65270
Huber, Lasley E., Moberly 65270
Miller, D. Herbert, 4410 Denison St., Muskogee, Okla. 74401
Ragsdale, George M., Paris 65275
Rowlette, Avery P., Moberly 65270
Smith, Carl C., Moberly 65270
Streetor, Roderick D., 245 Union Blvd., St. Louis 63108
Stuart, Daniel D., Brunswick 65236
Szymanski, Stanley R., Macon 63552
Young, Robert H., Moberly 65270

CHRISTIAN COUNTY
(Ozarks Medical Society)

CLARK COUNTY
(Lewis-Clark-Scotland County Medical Society)

CLAY COUNTY MEDICAL SOCIETY

Adams, Howard D., 114 N. Water St., Liberty 64068
Allain, James J., 2022 Swift St., N. Kansas City 64116
Allan, James R., 1236 Jesse James Rd., Excelsior Springs 64024
Allen, Louis A., 2800 Hospital Dr., N. Kansas City 64116
Armstrong, Jay H., 4812 Black Swan Dr., Shawnee Mission, Kan. 66216
Arst, Herbert E., 1201 E. 81st St. N., Kansas City 64118
Balhuizen, John, 5601 N. Antioch Rd., Kansas City 64119
Bates, George C., 2730 S. Mall, Kansas City 64119
Boone, Daniel C., 5800 N. Grand Ave., Kansas City 64118
Bowles, Richard P., 112 N. Water St., Liberty 64068

Bruce, Paul C., 115 S. Titus Ave., Excelsior Springs 64024
Burke, Emmet K., 5140 Antioch Rd., Kansas City 64119
Castillo, Michael E., 5601 N. Antioch Rd., Kansas City 64119
Chiles. David R., Box 238, Smithville 64089
Coppinger, Thomas A., 306 E. 21st Ave., Kansas City 64108
Devine, Mark W., Jr., 5601 Antioch Rd., Kansas City 64119
Dunham, Robert H., 6022 N. Antioch Rd., Kansas City 64119
Edwards, Theodore F., 2029 Burlington St., Kansas City 64116
Fakhoury, Donald A., 4030 N. Oak St., Kansas City 64111
Fischer, Edward H., 306 E. 21st Ave., N. Kansas City 64108
Fotopoulos, Chris K., 2022 Swift, North Kansas City 64116
Fowler, 1. Charles, 2025 Swift S., N. Kansas City 64116
Galbol, Harley, Box 950, Excelsior Springs 64024
Gauer, Robert J., 525 N.W. 43rd Terr., Kansas City 64116
Hall, James W., 6712 N. Oak Trafficway, Kansas City 64118
Hayes, Lawrence L., 8400 N. Oak Trafficway, Kansas City 64155
Hedges, Richard C., 402 St. Louis Blvd., Excelsior Springs 64024
Hendren, Glenn W., 114 N. Water St., Liberty 64068
Hendren, Thomas H., 2022 Swift, Kansas City 64116
Hodge, Robert H., 2204 E. 39th St., N. Kansas City 64109
Houck, Russell M., V. A. Hospital, Kecoughtan, Va. 23367
King, Phillip E., 101 W. Kansas St., Liberty 64068
Kuenzi, Donald E., 8630 N. Oak Trafficway, Kansas City 64155
Langhus, Melvin O., 104 W. Englewood Rd., N. Kansas City 64118
Lindquist, Paul A., 1940 152 Highway, Liberty 64068
McCormick, James E., 4030 N. Oak St., Kansas City 64111
McCracken, Samuel R., 107 W. Spring St., Excelsior Springs 64024
McPhee, William R., 2800 Hospital Dr., Kansas City 64116
Marsh, Wallace S., Tulane Univ. School of Postgrad., New Orleans, La. 70118
Mullins, Bernard L., 405 E. 19th St., N. Kansas City 64108
Musgrave, David E., Excelsior Springs 64024
Parker, Robert H., 5601 N. Antioch Rd., Kansas City 64119
Perry, Lawrence L., Jr., 6300 N. Lenox St., Kansas City 64151
Pileggi, Felix A., 405 E. 19th St., N. Kansas City 64108
Porter, Russell C., 1351 Weeburn Rd., Seal Beach, Calif. 90740
Revare, Paul, 4100 Vivion Rd., Kansas City 64119
Richardson, William D., Baptist Medical Center, Nalerigu Via Gambaga, Ghana, W. Africa
Roberts, L. Marvin, 5140 Antioch Rd., Kansas City 64119
Robichaux, Eugene B., 116 South St., Excelsior Springs 64024
Robinson, Van M., 4124 Vivion Rd., Kansas City 64119
Sanders, George E., 116 South St., Excelsior Springs 64024
Sawyer, Floyd E., 5350 N. Oak St. Trafficway, Kansas City 64118
Schertz, Truman B., 2022 Swift St., N. Kansas City 64116
Slaughter, Carl R., 405 E. 19th Ave., N. Kansas City 64108
Sportsman, Weldon L., Rt. 2, Smithville 64089
Stratman, Clarence A., 1500 N.E. 57th Terr., Kansas City 64118
Thomas, Thomas C., 215 S. Sibley St., Buckner 64016
Triplett, Daniel A., 4124 Vivion Rd., Kansas City 64119
Wald, Donald M., 2800 Hospital Dr., N. Kansas City 64116
Ward, Robert L., 4126 St. John Ave., Kansas City 64123
Waterman, Franklin M., Liberty 64068
Werner, Dean F., 2025 Swift St., N. Kansas City 64116
Werner, Franklin C., 5140 Antioch Rd., Kansas City 64119
Williams, John M., 32 S. Main St., Liberty 64068
Williams, Robert D., Smithville 64089
Withrow, John B., 5601 Antioch Rd., Kansas City 64119
Wright, Earl J., 3509 E. 67th Terr., North Kansas City 64119

CLINTON COUNTY MEDICAL SOCIETY

Collantes, Jose L., State Hospital #3, Nevada 64772
Luckenbill, Paul T., Plattsburg 64477
Mabrey, John P., Plattsburg 64477
Ozenberger, Larry A., Plattsburg 64477
Spalding, Wilber B., Plattsburg 64477

COLE COUNTY MEDICAL SOCIETY
(Jefferson City 65101)

Belden, Edgar A., State Office Bldg.
Bregant, Robert E., 1017 Laurel Dr.
Bruce, James G., 1921 W. Main St.
Clark, Kendall A., 515 E. High St.
Cooper, Charles W., 423 Cherry St.
Cox, William A., 105 E. High St.
Doyle, Matthew J., 515 E. High St.
Enloe, L. David, 1200 Moreland
Exon, C. Stuart, 515 E. High St.
Fullgrabe, E. A., State Office Bldg.
Garner, Lynn M., State Division of Health
Gentry, Merritt L., 405 Norris
Gordon, James S., 515 E. High St.
Guhleman, Henry V., Jr., Medical Arts Bldg.
Gurnee, Landon H., 515 E. High St.
Handler, Fred P., 614 Boonville Rd.
Kelly, Marshall W., 612 E. High St.
Klebba, Larry B., P. O. Box 403
Lauderdale, William H., 302 Bolivar
Leslie, J. Paul, 933 Fairmount Blvd.
Leslie, James T., Jr., 213 Jackson St.
Loyd, Earl L., 1448 W. Dunklin St.
McHaney, John W., 606 E. High St.
McKnelly, William V., 507 E. High St.
Mansur, Edward E., R.F.D. 2, Box 629D, Stuart, Fla. 33494
Matthews, John I., 302 Bolivar St.
Maxey, Hugh W., 1238 Elmerine
Meier, Francis X., 1913 Hayselton Dr.
Meinershagen, Charles W., 138 Forest Pl.
Melia, Bernard J., Jr., Capt. M. C., DeWitt Army Hospital, Fort Belvoir, Va. 22060
Morgan, Philip E., 226 E. Dunklin
Ossman, Julian A., 2505 W. Main St.
Ringo, Henry J., Centertown 65023
Russell, Joseph P., Division of Health
Ryan, Thomas J., 213 Jackson St.
Sanders, Jack S., 515 E. High St.
Schmidt, J. H., 515 E. High St.
Scott, E. David, 238 E. High St.
Sennott, John S., 515 E. High St.
Shull, George D., 521 E. High St.
Stauffer, Harry B., 1312 W. High
Stricker, Harold C., 515 E. High St.
Sugarbaker, Everett D., 503 E. High St.
Summers, Joseph S., Jr., 515 E. High St.
Tanner, Robert H., 1608 Greenberry Rd.
Taylor, Leon A., 129 E. High St.
Tietjen, Frederick O., 213 Jackson St.
Wallace, John K., II, 214 Ridgeway Dr.
Watts, Byron E., 515 E. High St.
Wayland, Thomas A., Box 239, Camdenton 65020
Winegar, Alvon C., 515 E. High St.

COOPER COUNTY MEDICAL SOCIETY
(Boonville 65233)

Abele, William A., 329 Main St.
Avery, Willard B., 329 Main St.
Beckette, Theodore C., 317 Main St.
Boley, James O., 3200 E. Meyer Blvd., Kansas City 64132
Chamberlain, Gilbert L., 570 E. Spring St.
Diekroeger, Manuel L., Route 1
Draper, Bernard, 329 Main St.
Hata, Daikichi, 329 Main St.
Humphreys, Edward T., 329 Main St.
Stuart, Byron M., 329 Main St.
Winn, George W., 329 Main St.

CRAWFORD COUNTY
(Mid-Missouri County Medical Society)

DADE COUNTY
(Barton-Dade County Medical Society)

DALLAS-HICKORY-POLK COUNTY MEDICAL SOCIETY

Barnett, Charles H., Bolivar 65613
Brooks, John M., 840 S. Pickwick St., Springfield 65804
Griffin, Evelyn, Buffalo 65622
Griffin, Olin A., Jr., Buffalo 65622
Harrell, Henry J., Rt. 1, Box 263B, Summerfield, Fla. 32691
Kahler, Monte R., Bolivar 65613
Koon, Ben H., Bolivar 65613
McCraw, Doyle C., Bolivar 65613
Robinson, George G., Humansville 65674

DAVIESS COUNTY
(Grand River Medical Society)

DEKALB COUNTY
(Grand River Medical Society)

DENT COUNTY
(Mid-Missouri County Medical Society)

DOUGLAS COUNTY
(South Central Counties Medical Society)

DUNKLIN COUNTY MEDICAL SOCIETY

Baldwin, Paul, Kennett 63857
Benson, Leo J., Jr., Kennett 63857
Cash, Charles R., Kennett 63857
Croom, Dorwyn W., Malden 63863
Dunmire, George Q., Kennett 63857
English, Wallace D., Cardwell 63829
Hopkins, Florian G., Gideon 63848
Hunt, John L., Campbell 63933
Joffe, Irwin, 617 W. Main St., Paragould, Ark. 72450
Legan, John K., Kennett 63857
Miltenberger, Paul C., Kennett 63857
Morehead, William E., Malden 63863
Palenske, Robert L., Hornersville 63855
Peck, Chester R., Jr., Kennett 63857
Rutledge, William J., Campbell 63933
Tarver, Quinton, Kennett 63857
Wilson, Loys C., Kennett 63857
Zimmerman, Joe A., Kennett 63857

FRANKLIN-GASCONADE-WARREN COUNTY MEDICAL SOCIETY

Baker, Donald L., Union 63084
Bonney, Samuel C., Washington 63090
Bozzo, Raymond J., Washington 63090
Brenner, Paul A., Owensville 65066
Crawford, Robert M., Sullivan 63080
de la Torre, John J., Sullivan 63080
Denny, Hubert M., Union 63084
Eisenmann, Benjamin P., New Haven 63068
Eyermann, H. Walter, Warrenton 63383
Farrell, S. L., Washington 63090
Giem, Ross N., Sullivan 63080
Hoelscher, Harold F., Warrenton 63383
Johnson, Grover C., Marthasville 63357
Mays, Frank G., Washington 63090
Mitchell, Thomas J., St. Clair 63077
Moellenhoff, Robert W., Washington 63090
Murney, Joseph A., Washington 63090
Post, John P., Washington 63090
Richardson, George A., Union 63084
Richardson, William R., Union 63084
Royse, Roy P., Sullivan 63080
Ryan, John B., Washington 63090
Schmidt, Charles A., Gerald 63037
Shea, James G., Gerald 63037
Steinbeck, Herbert D., 21 Hilltop Dr., Chappaqua, N. Y. 10514
Strehlman, Benjamin G., Union 63084
Workman, George M., Hermann 65041

GASCONADE COUNTY
(Franklin-Gasconade-Warren County Medical Society)

GENTRY COUNTY
(Northwest Missouri Medical Society)

GRAND RIVER MEDICAL SOCIETY
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Erroll W., Carrollton 64633
Atcheson, Windsor B., Trenton 64683
Bales, Eugene L., Carrollton 64633
Bohnsack, Ralph W., Brookfield 64628
Brennan, Raymond J., Chillicothe 64601
Broyles, Watkins A., Bethany 64424
Carter, Howard, Hamilton 64644
Clark, Chester L., Trenton 64683

Conrad, Joseph, Chillicothe 64601
Cross, Albert D., Trenton 64683
Daley, Frank R., Hamilton 64644
Dixon, John R., Brookfield 64628
Dowell, Donald M., Chillicothe 64601
Dowell, J. Larry, Pattonsburg 64670
Duffy, Oliver F., Trenton 64683
Ellsworth, Willard, Cainsville 64632
Fair, William L., Chillicothe 64601
Fuson, William A., Trenton 64683
Gale, Joseph F., Chillicothe 64601
Gary, George, Marceline 64658
Gearhart, Merriam, Bethany 64424
Gilliland, Charles E., Cameron 64429
Horner, Glennon A., 818 Yale, Columbia 65201
Howell, Billy D., Brookfield 64628
Kimberlin, Herbert C., Trenton 64683
McArtor, Thomas R., Browning 64630
Magill, Joseph S., Milan 63556
Mandler, George, Chillicothe 64601
Nixon, Edward E., Gallatin 64640
Pemberton, Charles W., 1111 Army-Navy Dr., Arlington, Va. 22202
Platz, John H., Carrollton 64633
Rice, Huberta King, Brookfield 64628
Smith, Robert W., Marceline 64658
Staton, R. Hamilton, Carrollton 64633
Sweiger, James H., Rt. 1, Plattsburg 64477
Thompson, Emma A. B., 1801 Cliff Dr., Columbia 65201
Todd, Paul C., Marceline 64658
Vandiver, Virgil D., Chillicothe 64601
Vinyard, Jack L., Carrollton 64633
Weir, R. S., Bethany 64424
Wilson, Fred K., Winston 64689

GREENE COUNTY MEDICAL SOCIETY
(Springfield)

Allen, Jerry H., 1211 S. Glenstone St., 65804
Allison, James B., 600 S. Glenstone St. 65802
Anthony, Dallas D., Professional Bldg. 65806
Ash, Charles J., Professional Bldg., 65806
Ashley, Thomas E., 1211 S. Glenstone St. 65804
Atkinson, Thomas E., Jr., 609 E. Cherry St. 65806
Auner, Cecil R., 600 S. Glenstone St. 65802
Back, Donald K., 1211 S. Glenstone St. 65804
Bailey, Alan B., 609 Cherry 65806
Baldwin, Richard, 600 S. Glenstone St. 65802
Blades, Ross D., 1211 S. Glenstone St. 65804
Bonebrake, MacDonald, Professional Bldg. 65806
Broaddus, Loren, 1550 E. Sunshine 65804
Brown, James T., 1653 S. National St. 65804
Brown, Lyman D., 604 Empire Bldg. 65806
Burkey, Jordan W., Professional Bldg. 65806
Burns, Thomas J., 2740 S. Glenstone 65804
Busiek, Erwin F., Professional Bldg. 65806
Busiek, Paul J., Professional Bldg. 65806
Busiek, Urban J., Professional Bldg. 65806
Callaway, Guy D., 1155 S. Delaware St. 65804
Callaway, Guy D., Jr., 1211 S. Glenstone St. 65804
Cheek, J. William, 609 Cherry 65806
Christy, Raymond A., Jr., 1211 S. Glenstone St. 65804
Clarke, Michael J., 609 Cherry 65806
Clary, William F., 1636 S. Glenstone St. 65804
Clawson, James W., Professional Bldg. 65806
Clayton, Edgar L., Professional Bldg. 65806
Cochran, Thomas E., Jr., 2423 Brentwood Blvd. 65804
Coller, Frederick G., 2433 Marlan St. 65802
Conrad, Raymond C., 609 Cherry St. 65806
Cook, James R., 850 Cavalier Rd. 65802
Cordonnier, James K., 1550 E. Sunshine 65804
Crawford, Oral B., Professional Bldg. 65806
Cunningham, Darral D., 1715 Boonville Ave. 65803
Dietz, M. Wendell, Burge Protestant Hosp. 65803
Dillard, Erin M., Professional Bldg. 65806
Dills, Joseph N., 1715 Boonville Ave., 65803
Dolan, Daniel L., Professional Bldg. 65806
Duncan, Robert D., 1534 E. Sunshine 65804
Eastwood, Robert A., 3043 Wilshire 65804
Elkins, Ronald F., Professional Bldg. 65806
Ellis, Francis J., Professional Bldg. 65806
Ellis, Harry L., Professional Bldg. 65806
Evans, Ezra L., Jr., 1260 E. Catalpa 65806
Farthing, Fred R., 1234 E. Walnut St. 65802
Farthing, Gene W., 1636 S. Glenstone St. 65804
Ferguson, John L., 1550 E. Sunshine 65804
Ferguson, John P., Jr., 1219 S. Clay St. 65804
Ferrell, Thomas E., Jr., 1534 E. Sunshine Blvd. 65804
Fitch, C. H. Max, 1711 Boonville Ave. 65803
Fogerson, Virginia L., 1125 S. Karla 65804
Francis, William C., 600 S. Glenstone St. 65802
Gay, George R., c/o U. Morf, 2209 Webster, San Francisco, Calif. 94115
German, Walter A., Jr., 1211 S. Glenstone St. 65802
Giddings, Frank C., Burge Protestant Hosp. 65803
Glenn, Elmer E., 833 East Elm 65806
Glynn, Robert R., 1211 S. Glenstone St. 65802
Gorelick, David F., Professional Bldg. 65806
Gose, Don F., 1550 E. Sunshine 65804
Hall, David W., 2122 Wayland Dr. 65804
Hall, Durward G., 2442 S. Fremont 65804
Hanan, Ernest B., 724 E. Kingsbury 65804
Hanss, Armand W., 3500 Cherry 65804
Harmon, Ben C., 1211 S. Glenstone St. 65804
Harvey, Harold D., 1531 E. Sunshine 65804
H'Doubler, Charles E., Professional Bldg. 65806
H'Doubler, Francis T., Jr., Professional Bldg. 65806
H'Doubler, Peter B., 609 Cherry St., Suite 114 65806
Hogeboom, George W., P. O. Box 1017, Delray Beach, Fla. 33444
Holland, Robert D., 2623 Luster 65804
Hollis, Richard W., Professional Bldg. 65806
Holms, Daniel E., 600 S. Glenstone St. 65802
Holmes, David R., 1636 S. Glenstone St. 65804
Hoover, H. Lee, Jr., 1330 E. Walnut St. 65802
Horton, James D., Professional Bldg. 65806
Hulstra, Johannes F. W., 1211 S. Glenstone St. 65804
Ivy, Henry B., 600 S. Glenstone St. 65802
Jameson, James E., Professional Bldg. 65806
Johnson, George A., 2349 Edgewood 65804
Johnson, George L., Martin Army Hospital, Ft. Benning, Ga. 31905
Johnson, Warford B., Professional Bldg. 65806
Johnson, William F., Professional Bldg. 65806
Johnston, Joseph L., 2855 Southern Hills Blvd. 65804
Jones, Harold L., 1550 E. Sunshine 65804
Key, James S., Professional Bldg. 65806
Klingner, George M., 1630 N. Jefferson St. 65803
Klingner, George M., Jr., 1630 N. Jefferson 65803
Knabb, Arthur D., 1630 N. Jefferson St. 65803
Knabb, Henry F., Jr., 1630 N. Jefferson St. 65803
Knabb, Kenneth E., 1630 N. Jefferson St. 65803
Kolze, Vernon W., 600 S. Glenstone 65802
Langston, Walter R., Professional Bldg. 65806
Leidinger, Karl J., Republic 65738
Lemmon, George B., Prof. Bldg. 65806
Lewis, Noel R., 1423 N. Jefferson Ave. 65803
Litton, Lyle D., Burge Protestant Hosp. 65803
Lockhart, Charles E., Professional Bldg. 65806
Lorenc, Ernest, Professional Bldg. 65806
Lowe, Horace A., Jr., 114 Professional Bldg. 65806
Lurie, Harold H., 600 S. Glenstone St. 65802
McAlhany, Howard J., 609 Cherry St. 65806
McKinsey, John J., Professional Bldg. 65806
Maddux, William P., Professional Bldg. 65806
Maher, Robert W., Professional Bldg. 65806
Maple, Francis M., 1211 S. Glenstone St. 65804
Menchetti, Don E., 1630 N. Jefferson Ave. 65803
Meyer, Claude B., 4667 Palmer Lane, Rt. 12, 65804
Milne, Jay L., 609 Cherry St. 65806
Morton, Paul C., 1508 E. Stanford 65804
Moseley, F. Thomas, 609 Cherry St. 65806
Napper, Marvin L., Professional Bldg. 65806
Neu, Leo T., Jr., 3008 Carlisle Circle 65804
Overend, Don S., 1211 S. Glenstone St. 65804
Palcheff, Chris L., 1636 S. Glenstone St. 65804
Park, William I., Jr., Professional Bldg. 65806
Parlato, George S., 107 Professional Bldg. 65806
Penninger, William H., 600 S. Glenstone St. 65802
Peterson, Stanley S., 1211 S. Glenstone St. 65804
Podrecca, Guido I., Professional Bldg. 65806
Polk, John W., 609 Cherry St. 65806
Powell, Edwin M., Professional Bldg. 65806
Prater, Bill G., Professional Bldg. 65806
Pruett, Paul L., Professional Bldg. 65806
Quinn, Paul S., 1423 N. Jefferson 65802
Rainwater, Elmer H., Professional Bldg. 65806
Rigney, Levi M., 505 Woodruff Bldg. 65806
Rosen, Max, Professional Bldg. 65806
Russell, Earl D., 1503 S. Glenstone St. 65804
Sala, Jose M., 1423 N. Jefferson Ave. 65803
Scanlon, Robert C., 1711 Boonville St. 65803
Schaeffer, Edward M., 600 S. Glenstone St. 65802
Schroff, Carle H., 1630 N. Jefferson Ave. 65803
Schwartz, Eugene J., Professional Bldg. 65806
Schweitzer, Fred C., Jr., Woodruff Bldg. 65806
Shackter, Bruce I., 600 S. Glenstone 65802
Siceluff, Joseph G., 609 Cherry St. 65806
Silsby, Don J., Professional Bldg. 65806
Silsby, Harry D., Professional Bldg. 65806
Simpson, Albert P., 318 St. Louis St. 65806
Simpson, Emerson L., 1630 N. Jefferson Ave. 65803
Smith, C. Souter, 620 St. Louis St. 65806
Snead, William H., Jr., Professional Bldg. 65806
Spalding, David L., Professional Bldg. 65806
Stewart, Robert B., 600 S. Glenstone St. 65802
Stewart, R. Wendell, Professional Bldg. 65806
Stufflebam, Robert E., 2323 E. Rosebrier 65804
Sturtevant, Harwood N., Professional Bldg. 65806
Sundstrom, Frank D., 1211 S. Glenstone St. 65804
Tarrasch, Ernest L., 1636 S. Glenstone St. 65804
Taylor, William E., Southwest Missouri State College 65802
Terry, James F., 609 Cherry 65806
Thomasson, David D., 600 S. Glenstone St. 65802
Tillman, Walter W., Jr., Professional Bldg. 65806
Tombridge, Thomas L., Professional Bldg. 65806
Trotter, W. Yates, 1243 E. Catalpa 65804
Tsang, John L. K., 1636 S. Glenstone St. 65804
Turner, Glenn O., Professional Bldg. 65806
Vail, A. Denton, Professional Bldg. 65806
Vensel, Lee H., 600 S. Glenstone St. 65802
Waddell, Kenneth E., 1211 S. Glenstone St. 65804
Wakeman, J. Newton, 600 S. Glenstone St. 65802
Walker, William M., Professional Bldg. 65806
Warres, Herbert L., 2614 Englewood Rd. 65804
Waterfield, Jim R., 1211 S. Glenstone St. 65804
Webb, Leslie R., Jr., 1243 E. Loren 65804
White, R. Ned, Professional Bldg. 65806
Williams, John W., 600 S. Glenstone St. 65802
Williams, John W., Jr., 1227 Roanoke St. 65804
Wilson, Roy E., 1211 S. Glenstone St. 65804

Wise, Gordon F., Professional Bldg. 65806
Wittmer, Samuel C., 600 S. Glenstone St. 65802
Wong, George, Jr., 1636 S. Glenstone 65804
Wood, William W., 1211 S. Glenstone St. 65804
Wooldridge, Wilfred E., Professional Bldg. 65806
Yancey, Daniel L., 1211 S. Glenstone St. 65804
Zahn, Robert L., Professional Bldg. 65806

GRUNDY COUNTY
(Grand River Medical Society)

HARRISON COUNTY
(Grand River Medical Society)

HENRY COUNTY MEDICAL SOCIETY

Bradshaw, William D., Clinton 64735
Hollingsworth, Ray S., Clinton 64735
Hughes, Shelby B., Clinton 64735
Jones, Edna M., Clinton 64735
King, Richard H., Clinton 64735
Smith, James O., Clinton 64735
Smith, William J., Windsor 65360
Thurber, Claude M., Windsor 65360
Walker, George S., Clinton 64735
Walker, Hugh B., Clinton 64735

HICKORY COUNTY
(Dallas-Hickory-Polk County Medical Society)

HOLT COUNTY
(Northwest Missouri Medical Society)

HOWARD COUNTY MEDICAL SOCIETY

Bloom, W. A., Fayette 65248
Dean, Francis D., Fayette 65248
Leech, Maurice P., Fayette 65248
Marshall, William G., Glasgow 65254
Shaw, William J., Fayette 65248
Shaw, William J., Jr., Fayette 65248

HOWELL COUNTY
(South Central Counties Medical Society)

IRON COUNTY
(Mineral Area County Medical Society)

JACKSON COUNTY MEDICAL SOCIETY
(Kansas City)

Aaron, George A., 10901 Winner Rd., Independence 64052
Abrams, Bernard M., 24th and Cherry Sts. 64108
Adelman, Arthur, 601 E. 63rd St. 64110
Adler, Federico, 701 E. 63rd St. 64110
Agee, Loren G., 11201 Colorado 64137
Aisenstadt, E. Albert, 333 W. Meyer Blvd. 64113
Aks, Daniel, 751 E. 63rd St. 64110
Alberg, Marvin R., One Penn Valley Park 64141
Alderman, Thomas F., 7540 Troost 64131
Allebach, H. K., 6400 Prospect 64132
Allen, Robert E., 4320 Wornall Rd. 64111
Allen, William B., 4620 Nichols Parkway 64112
Alsop, Webb S., Jr., 3604 W. 53rd St., Shawnee Mission, Kan. 66205
Altomare, Edward P., 2610 E. 63rd St. 64130
Altringer, Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ambler, Carl D., Wornall Rd. at 44th St. 64111
Ammatelli, Francis J., 7546 Troost St. 64131
Anderson, Raymond B., 1710 Independence Ave. 64106
Anderson, Richard W., 1001 Romany Rd. 64113
Andrews, Berneil W., 4320 Wornall Rd. 64111
Andrus, Bailey C., 4320 Wornall Rd. 64111
Angles, Luis E., 701 E. 63rd St. 64110
Arms, Arnold V., 4320 Wornall Rd. 64111
Arnold, John D., 24th & Cherry Sts. 64108
Aschman, Theodore H., Plaza Time Bldg. 64112
Asher, A. Graham, 4706 Broadway 64112
Atcheson, Bellefield, 11123 Locust St. 64131
Atwell, Floyd C., 4620 Nichols Parkway 64112
Averill, Keith H., 2316 E. Meyer Blvd. 64132
Bacola, Eleni, 414 E. 12th St. 64106
Baer, Alvin J., 751 E. 63rd St. 64110
Baker, Philip J., 11440 E. 47th St. 64133
Ball, James E., 118 S. Mission Dr., San Gabriel, Calif. 91776
Ballard, V. Bryce, 4320 Wornall Rd. 64111
Bare, Chester I., Jr., 10501 E. 78th Terr. 64138
Barelli, Pat A., 4177 Broadway 64111
Barloon, James H., 9406 E. 63rd St. 64133
Barnard, John L., Jr., 4312 Nichols Parkway 64111
Barnes, Robert H., 9107 Contessa, San Antonio, Tex. 78216
Barnett, Gordon P., 751 E. 63rd St. 64110
Barry, Gerald W., 1948 E. Parvin Rd. 64116
Barry, William B., 4320 Wornall Rd. 64111
Basantz, Fernando V., 7951 State Line 64114
Bass, Walter R., 9503 E. 63rd St. 64133
Baum, Frank E., 701 E. 63rd St. 64110
Baumhardt, Edward E., 4320 Wornall Rd. 64111
Bay, Merrill R., 1808 W. Main St., Blue Springs 64015
Beatty, Arch J., 701 E. 63rd St. 64110
Beatty, Nina D., 24th & Cherry Sts. 64108
Beck, Calvin E., 4320 Wornall Rd. 64111
Becker, Richard R., 5622 Holmes St. 64110
Becker, Rolfe A., 601 E. 63rd St. 64110
Bell, William F., 615 W. 3rd St., Lee's Summit 64063
Bence, Jackson J., 44th and Wornall Rd. 64111
Bennett, James D., 6700 Troost 64131
Benoit, Hector W., Jr., 4620 Nichols Parkway 64112
Benson, William F., 4320 Wornall Rd. 64111
Berenson, Sheldon E., 4620 Nichols Parkway 64112
Bergmann, Victor H., 105 Ward Parkway 64112
Bernreiter Michael, 1246 W. 63rd St. 64113
Berry, Guy N., 4320 Wornall Rd. 64111
Berry, Maxwell G., 4320 Wornall Rd. 64111
Biggs, Alfred D., 6400 Prospect Ave. 64132
Biggs, Harry L., 63rd & Evanston 64133
Bikales, Victor W., 751 E. 63rd St. 64110
Bills, Marvin L., Plaza Time Bldg. 64112
Black, Don A., 6400 Prospect Ave. 64132
Black, Eugene C., Professional Bldg. 64106
Blim, Richard D., 4320 Wornall Rd. 64111
Bordy, Marvin D., 601 E. 63rd St. 64110
Borenstine, Joseph, 601 E. 63rd St. 64110
Bortnick, Eugene, 751 East 63rd St. 64110
Botwin, Arnold E., 701 E. 63rd St. 64110
Boughnou, Harvey P., 315 Nichols Rd. 64112
Bourke, Timothy S., 4620 Nichols Pkwy. 64112
Boutros, Amin, 3112 Linwood Blvd. 64128
Bowser, John F., 411 Nichols Rd. 64112
Boyd, George K., 5111 Independence Ave. 64124
Boyer, Philip A., Jr., Box 963 64137
Boylan, Peter C., 6307 Morningside Dr. 64113
Braby, Howard H., 1612 W. Truman Rd., Independence 64050
Bradford, John F., 4320 Wornall Rd. 64111
Brady, Arthur M., 3039 Brooklyn 64130
Brams, Jack B., 601 E. 63rd St. 64110
Braverman, Abe E., 8300 Troost 64131
Brewster, Charlotte M., 4320 Wornall Rd. 64111
Brown, Adrian J., 12 E. 63rd St. 64113
Brown, Elwyn S., 1710 Independence Ave. 64106
Brown, Irwin S., Plaza Time Bldg., 64112
Brown, Menzie H., 425 E. 63rd St. 64110
Brown, Robert S., 4706 Broadway 64112
Brumm, Lawrence W., 6400 Prospect 64132
Bruner, Robert E., 14909 Little Blue Rd. 64136
Brust, Carl H., 6114 Howe Dr., Mission, Kan. 66205
Bryan, William H., Jr., 3939 Prospect Ave. 64130
Bryant, T. J., 701 E. 63rd St. 64110
Buckingham, William W., 1103 Grand Ave. 64106
Buckner, Robert C., Plaza Parkway Bldg. 64112
Budke, Harold A., 306 E. 12th St. 64106
Buhler, Victor B., 5212 Belleview Ave., 64112
Buie, Bruce R., 11201 Colorado 64137
Bunting, Williston P., 305 W. 43rd St. 64111
Burch, Buford H., 6700 Troost 64131
Burns, Beryl I., 1510 Bass Ave., Columbia 65201
Burry, Virgil F., 1710 Independence 64106
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Calovich, Emery R., 4620 Nichols Parkway 64112
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Coburn, Donald F., 6400 Prospect Ave. 64132
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Cooper, Charles S., 6700 Troost 64131
Cooper, John H., Argyle Bldg. 64106
Cooper, Leo F., 6700 Troost 64131
Cortner, Mary C., 6700 Troost 64131
Courter, Larry P., 6400 Prospect Ave. 64132
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Crow, Martin L., 4177 Broadway 64111
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Eubank, William R., 6700 Troost 64131
Euhank, William Y., 6400 Prospect 64132
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Irwig, Fred, Professional Bldg. 64106
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Jacobs, Morton, 6314 Brookside Plaza 64113
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Jansen, Robert, 101 E. 63rd St. 64113
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Jennett, J. Harvey, Professional Bldg. 64106
Johnson, C. Laurence, Professional Bldg. 64106
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Johnson, James S., 4301 Cleveland 64130
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Johnson, Thomas M., 4320 Wornall Rd. 64111
Johnson, William A., 2200 Prospect 64127
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Kettner, Edward G., Professional Bldg. 64106
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Kirk, Robert V., 6400 Prospect 64132
Kiser, David M., 6700 Troost 64112
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Klein, Edward H., Plaza Medical Bldg. 64112
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Kyner, Thomas A., Wirthman Bldg. 64109
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Lentz, Clark H., BMA Tower 64141
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Lindquist, Carl N., 106 W. 14th St. 64105
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Lloyd, Ivan E., 1 Penn Valley Park 64141
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McGuire, Thomas H., 429 W. 58th St. 64113
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Owens, Graham J., 4117 Broadway 64111
Owens, Richard L., 9228 E. Highway 50 64133
Owens, Robert H., 6700 Troost 64131
Owre, Alfred, Jr., 2200 McCoy St. 64108
Ozar, Milton B., 6700 Troost 64131
Padfield, Earl G., Jr., Plaza Broadway Bldg. 64112
Pakula, Sidney F., 601 E. 63rd St. 64110
Pakula, Stephen B., 601 E. 63rd St. 64110
Pallett, Harold A., 4620 Nichols Parkway 64112
Parelman, Allen G., 601 E. 63rd St. 64110

Parker, Hubert M., Argyle Bldg. 64106
Parsons, Eugene O., 315 Nichols Rd. 64112
Passman, Harold, 701 E. 63rd St. 64110
Payne, William B., 6400 Prospect 64132
Pearson, Paul E., 31st and Wyandotte 64108
Peete, Don C., Professional Bldg. 64106
Penner, Stanley, 601 E. 63rd St. 64110
Pentecost, Richard L., 2200 McCoy St. 64108
Perico, Carlos J., 405 E. 19th Ave. 64116
Perll, Maurice F., 6700 Troost 64131
Perll, Rita D., 830 W. 61st Terr. 64113
Perry, Ralph, 6400 Prospect 64132
Petersen, A. Gene, 7721 State Line 64114
Petersen, Gerald D., 411 Nichols Rd. 64112
Peterson, Bonita J., 31st and Wyandotte Sts. 64108
Peterson, Carl M., 2701 E. 31st St. 64128
Peterson, George L., 4806 W. 68th St., Shawnee Mission, Kan. 66208
Peterson, Milton C., 6400 Prospect 64132
Peterson, Walter R., 2701 E. 31st St. 64128
Petitt, Robert M., 4320 Wornall Rd. 64111
Petry, Ezra L., 701 E. 63rd St. 64110
Pfuetze, Edwin L., Plaza Parkway Bldg. 64112
Pickard, Nicholas S., 6210 High Dr., Shawnee Mission, Kan. 66208
Pickens, Edgar E., U. S. Grant Hotel, San Diego, Calif. 92101
Pierron, John B., 6516 Linden Rd. 64113
Pinsker, Oscar T., 751 E. 63rd St. 64110
Piper, Donald K., 6700 Troost 64131
Pipkin, Garrett F., Argyle Bldg. 64106
Polk, George M., 12112 E. 52nd Terr. 64133
Pollock, Leo H., 751 E. 63rd St. 64110
Pope, Charles H., Jr., 1509 W. Truman Rd., Independence 64050
Porter, Louis, 751 E. 63rd St. 64110
Poser, Charles M., 616 W. Meyer Blvd. 64113
Potter, Lee G., 6904 Valley Rd. 64113
Potts, Donald A., 110 E. 23rd St., Independence 64050
Powell, Nelson E., 4400 Nichols Parkway 64111
Powers, John M., 3838 Blue Ridge Blvd., Independence 64052
Preston, Albert, Jr., 4320 Wornall Rd. 64111
Printz, Joseph H., 601 E. 63rd St. 64110
Printz, Otto J., 601 E. 63rd St. 64110
Pucci, Gregory L., 411 Nichols Rd. 64112
Pugh, Richard G., 1612 W. Truman Rd., Independence 64050
Quer, Erich A., 6400 Prospect 64132
Quistgard, Paul C., Star Route, Box 62, Hollister 65672
Rader, Ada B., 13414 Locust St. 64145
Raich, Robert A., 4320 Wornall Rd. 64111
Ramey, Ehret O., 4635 Wyandotte St., 64112
Ramos, John F., Jr., 2849 Indiana 64128
Rannie, Paul R., 709 S. Fuller St., Independence 64052
Rector, Joe L., Jr., St. Luke's Hosp. 64111
Reinhardt, George R., 6400 Prospect 64132
Reister, Philip D., 1815 E. 63rd St. 64130
Reitz, Carl H., 7329 Broadway 64114
Reynolds, Clarence C., 3842 E. 63rd Terr. 64130
Rhoades, Arthur B., Professional Bldg. 64106
Richardson, Marion W., 2526 Prospect 64127
Richert, Robert C., 504 W. 96th St. 64114
Riley, Joseph P., Jr., Parthenon, Ark. 72666
Riller, Lowell E., Professional Bldg. 64106
Roberts, Grosvenor G., 6700 Troost 64131
Roberts, Harold M., Professional Bldg. 64106
Robinson, Arthur W., 4320 Wornall Rd. 64111
Robinson, E. Kip, Professional Bldg. 64106
Robinson, G. Wilse, Jr., 2625 W. Paseo 64108
Robinson, William J., 601 E. 63rd St. 64110
Robison, James T., Jr., 4620 Nichols Parkway 64112
Rodgers, George H., 10041 El Monte Lane, Overland Park, Kan. 66207
Rodgers, Samuel U., 2701 E. 31st St. 64128
Rogers, Robert L., 751 E. 63rd St. 64110
Rose, Charles W., 334 S. Van Brunt 64124
Rubin, Sidney, 4949 Rockhill Rd. 64110
Rubnitz, Leon H., 751 E. 63rd St. 64110
Rufe, John R., Bryant Bldg. 64106
Russell, James L., 1250 W. 56th St. 64113
Russell, Robert K., 63rd & Evanston, Raytown 64133
Sabates, Felix N., 6700 Troost 64131
Saferstein, A. Lester, 3859 Cherry 64131
Saladino, Anthony, Argyle Bldg. 64106
Samuelson, Edward A., 4620 Nichols Parkway 64112
Sanders, Donald C., 2625 W. Paseo 64108
Sanders, Harmon U., Jr., 2246 Rhode Island, Lawrence, Kan. 66044
Sanders, William F., 411 Nichols Rd. 64112
Sandow, Theodore L., Jr., 4320 Wornall Rd. 64111
Santoro, Carlos G., 1103 Westport Rd. 64111
Saper, Philip, 3 E. 3rd St., Lee's Summit 64063
Sasano, Joseph R., Jr., 1710 Independence Ave. 64106
Sauer, Gordon C., 6400 Prospect Ave. 64132
Saunders, Everett L., 121 W. Lexington, Independence 64050
Scales, Margaret B., 6601 Rockhill Rd., 64110
Schaerrer, William C., 4320 Wornall Rd. 64111
Schiffmacher, Jack E., Professional Bldg. 64106
Schillie, Gene A., 6400 Prospect 64132
Schmidt, C. Robert, 6400 Prospect 64132
Schoolman, Arnold, 6700 Troost 64131
Schottman, Gerhard W., Jr., St. Luke's Hosp. 64111
Scott, Charles C., 2317 McCoy 63108
Schutz, Carl B., 841 San Pablo Dr., San Marcos, Calif. 92069
Schutz, Richard B., 411 Nichols Rd. 64112
Seely, Clark W., 1710 Independence Ave. 64106
Sells, Kenneth J., 5100 E. 24th St. 64127
Sewell, Minor F., 1249 Stratford 64113
Shalet, Malcolm F., 425 E. 63rd St. 64110
Shapiro, Lazare M., 701 E. 63rd St. 64110
Sheahon, John A., 6706 Raytown Rd. 64133
Shecter, Nathan, 701 E. 63rd St. 64110
Shelden, Russell D., 6400 Prospect 64132
Shifrin, Alexander, 6700 Troost 64131
Shireman, Kenneth L., 4606 St. John 64123
Shires, Edward B., 6700 Troost 64131
Shockley, Clarence J., 5927 McGee 64113
Shofstall, Charles K., 229 Ward Parkway 64112
Shopfner, Charles E., 1710 Independence 64106
Shuey, Herbert H., 3903 Brooklyn 64130
Shypper, Moses J., 751 E. 63rd St. 64110
Simmons, Donald D., 600 E. 22nd St. 64108
Simon, Sanford, 601 E. 63rd St. 64110
Sinclair, Alexander B., 920 W. 47th St. 64112
Singleton, John M., III, 411 Nichols Rd. 64130
Skillman, Robert K., 4320 Wornall Rd. 64111
Skinner, John T., Bryant Bldg. 64106
Slankard, Edward, 4320 Wornall Rd. 64111
Slentz, Edwin L., 4320 Wornall Rd. 64111
Slentz, William A., 4320 Wornall Rd. 64111
Slickman, R. A., 6700 Troost 64131
Smith, Arthur B., 6400 Prospect Ave. 64132
Smith, Edwin I., Univ. of Okla. Med. Center, Oklahoma City, Okla. 73104
Smith, H. Eugene, 411 Nichols Rd. 64112
Smith, Ira T., 6400 Prospect 64132
Smith, Katherine W., 801 W. 58th Terr. 64113
Smith, O. D., 6300 Woodson, Mission, Kan. 66202
Smith, Wallace B., 10901 Winner Rd., Independence 64052
Smull, Ned W., 2318 W. 70th Terr. Shawnee Mission, Kan. 66208
Sneid, Philip, 701 E. 63rd St. 64110
Snider, Wilbur R., 10901 Winner Rd., Independence 64052
Somoza, Jose, 6614 Indiana 64132
Spafford, Allen L., 315 Nichols Rd. 64112
Spalding, Wilber B., Jr., 1102 Grand 64106
Spencer, Donald M., 604 West Maple, Independence 64050
Spies, Barbara J., 11201 Colorado 64137
Spurny, Otto M., 425 E. 63rd St. 64110
Stacey, Wallace R., 2116 S. Sterling Ave., Independence 64052
Staggs, William A., Argyle Bldg. 64106
Staley, Harry R., Bryant Bldg. 64106
Starke, Helen, 2020 Olathe Blvd., Kansas City, Kan. 66103
Statland, Harry, 601 E. 63rd St. 64110
Statland, Morris, 601 E. 63rd St. 64110
Steffen, Lawrence F., 4706 Broadway 64112
Stegman, Elmer G., 6137 Blue Ridge Blvd., Raytown 64133
Stein, Joseph W., 1103 Grand Ave., 64106
Stelle, Charles W., Box 1159, The Bendix Corp. 64141
Stelmach, Walter J., 6700 Troost 64131
Stockton, Raymond W., 4320 Wornall Rd. 64111
Stockwell, A. Lloyd, Professional Bldg. 64106
Stone, Raymond F., 10339 Sagamore Lane, Shawnee Mission, Kan. 66206
Stotts, Charles S., R.R. 4, Fredonia, Kan. 66736
Stratemeier, Edward H., 31st & Wyandotte 64108
Strauss, Carl F., 8300 Troost 64131
Stribling, Thomas L., 2116 S. Sterling Ave., Independence 64052
Summers, Caldwell B., Plaza Theatre Bldg. 64112
Sutton, Richard L., Jr., 411 Nichols Rd. 64112
Swisher, Robert C., 425 E. 63rd St. 64110
Switzer, Clyde, 8100 W. 54th Terr., Overland Park, Kan. 66202
Sword, Richard O., 800 W. 47th St. 64110
Szabados, Ernest D., 1612 W. Truman Rd., Independence 64050
Tamblyn, Claire L., 6400 Prospect 64132
Tarson, Solomon S., 5511 W. 85th St., Overland Park, Kan. 66207
Tasker, Charles B., 31st & Wyandotte 64108
Teare, Max E., 600 E. 22nd St. 64108
Terrill, Robert S., 800 W. 47th St. 64112
Tesson, James A., Rialto Bldg. 64106
Theel, Otto W., Jr., 4301 Main 64111
Thiele, George H., 1545 Wornall Rd. 64111
Thomas, Christopher Y., 4320 Wornall Rd. 64111
Thompson, Charles L., 4320 Wornall Rd. 64111
Threlkeld, William L., Jr., APCM, BP 117, Luduabourg via Leopoldville, Congo
Tice, Wayne K., 1509 W. Truman Rd., Independence 64050
Totten, Frederick E., 6700 Troost 64131
Trimble, George X., 101 Memorial Dr. 64108
Troeh, Melvin R., 10901 Winner Rd., Independence 64052
Trowbridge, Barnard C., 415 E. 63rd St. 64110
Trowbridge, Ellsworth H., Jr., 411 Nichols Rd. 64112
Turner, Ronald M., 10901 Winner Rd., Independence 64052
Tutera, Dominic F., Plaza Medical Bldg. 64112
Tuthill, Herbert, 1037 W. 71st Terr. 64114
Twin, Edward J., 8300 Troost 64131
Twyman, Richard A., 4320 Wornall Rd. 64111
Underwood, Dick H., 6700 Troost 64131
Underwood, Harry A., 5100 E. 24th St. 64127
Underwood, Johnson, Jr., Professional Bldg. 64106
Underwood, Ross H., 5522 Aberdeen Rd., Shawnee Mission, Kan. 66205
Unger, Harold, 701 E. 63rd St. 64110
Upsher, Albert E., Box 2778, 64106
Valins, Eugene, 751 E. 63rd St. 64110
Van Biber, James T., 1612 W. Truman Rd., Independence 64050
Van Buskirk, Terrance E., 5246 St. John 64123
Van Buskirk, William C., 6700 Troost 64131
Vaughn, James W., 2625 W. Paseo 64108
Vermeire, David A., 1735 Baltimore 64108
Vilmer, Charles, Professional Bldg. 64106
Vincent, Jack C., 8300 Troost 64131
Virden, Herbert H., 6700 Troost 64131
Viril, Leonardo C., 4706 Broadway 64112
Voth, Harold W., 4320 Wornall Rd. 64111
Wade, Frederick E., Professional Bldg. 64106
Wagner, Paul J., 2826 Main 64108
Wakefield, Franklin H., 1102 Grand 64106
Walker, James C., 2727 Main 64108
Walker, John W., 6400 Prospect 64132
Walker, Orville C., Jr., 10901 Winner Rd. Independence 64052
Wall, Harry C., 751 E. 63rd St. 64110
Wall, Leonard A., 4320 Wornall Rd. 64111
Watson, Ethel, First National Bank Bldg. Independence 64050
Waxman, David, 4840 Prospect 64130
Waxman, Herbert J., 8300 Troost 64131
Waxman, Jane Z., 4840 Prospect 64130
Webb, Harry E., 330 W. 47th St. 64112

Weiford, Edward C., 4320 Wornall Rd. 64111
Weir, Robert K., 4200 Blue Ridge Blvd. 64133
Weller, Lynn D., Jr., 6700 Troost 64131
Wells, James A., 600 E. 45th St. 64110
Wells, John H., 3325 Prospect 64128
Weltscheff, Christo A., 1800 Blue Ridge Ext. 64146
Wheeler, Charles B., 4320 Wornall Rd. 64111
Wheeler, John H., 4320 Wornall Rd. 64111
White, Charles H., 6700 Troost 64131
White, George A., 3416 Paseo Blvd. 64109
White, James S., 2849 Indiana 64128
White, Stoughton F., 4320 Wornall Rd. 64111
White, William E., 6400 Prospect 64132
Whiteman, John R., 6314 Brookside Plaza 64113
Whitman, Doyle C., 18 E. 11th St. 64106
Whitmore, J. Stewart, 1039 W. 58th St. 64113
Whittaker, Charles K., 4320 Wornall Rd. 64111
Wicks, Edwin O., 415 E. 11th 64106
Wien, Irving A., 1103 Grand 64106
Wilber, Robert D., 4320 Wornall Rd. 64111
Wilhelm, Warren F., 6400 Prospect 64132
Wilkinson, Charles B., 4604 Benton Blvd. 64130
Wilkinson, Everett A., 6400 Prospect 64132
Williams, Frank R., 4320 Wornall Rd. 64111
Williams, George P., 10604 Blue Ridge Ext. 64134
Williams, Joseph C., Jr., 6400 Prospect 64132
Williams, Roland D., 305 W. 43rd St. 64111
Williams, Starks J., 5600 Agnes 64130
Williamson, George L., Professional Bldg. 64106
Willits, Lyle G., Professional Bldg. 64106
Willoughby, James W., 1125 Grand 64106
Willoughby, Jean B., 6400 Prospect 64132
Wilson, Clifford C., 4320 Wornall Rd. 64111
Wilson, Hester J., Plaza Time Bldg. 64112
Winer, Herbert J., 751 E. 63rd St. 64110
Winkelman, Esther B., 6400 Prospect 64132
Winston, Bernard H., 601 E. 63rd St. 64110
Wise, George W., 1710 Independence Ave. 64106
Withers, Orval R., Plaza Parkway Bldg. 64112
Wolf, Jack W., 425 E. 63rd St. 64110
Woodman, Grey M., 2200 McCoy St. 64108
Woods, Harold V., 1405 W. 40 Hwy., Blue Springs 64015
Woods, S. Dwight, 4320 Wornall Rd. 64111
Woods, Walton C., Medical Dept. TWA, Midcontinent Intl. Airport 64108
Woodward, William W., 10901 Winner Rd. Independence 64052
Workman, Charles E., Professional Bldg. 64106
Wortmann, Robert F., 6400 Prospect 64132
Wright, R. Paul, Professional Bldg. 64106
Wu, William Q., 6700 Troost 64131
Wurster, W. Joel, 305 W. 43rd St. 64111
Yohe, Ruth M., 1710 Independence Ave. 64106
Youll, Donald V., 6700 Troost 64131
Youmans, Ronald A., 415 E. 63rd St. 64110
Young, James E., 4320 Wornall Rd. 64111
Young, Jesse W., 1401 Southwest Blvd., Kansas City, Kan. 66103
Young, Paul R., 2316 E. Meyer Blvd. 64132
Youngblood, James P., 4620 Nichols Parkway 64112
Zacharias, David L., St. Joseph Hosp., Linwood Blvd. at Prospect 64128
Zahony, Ivan, 4409 W. 93rd St., Prairie Village, Kan. 66207
Zellermayer, Jacob, 701 E. 63rd St. 64110

JASPER COUNTY MEDICAL SOCIETY (Joplin)

Adams, Robert B., Jr., Medical Arts Bldg. 64801
Allen, David O., 2525 S. Jackson 64803
Barnett, Norman H., 25th & Jackson 64803
Birsner, Frank H., 1717 River, Carthage 64836
Bladow, Terrence C., Medical Arts Bldg. 64801
Burch, John E., Medical Arts Bldg. 64801
Carnes, Victor M., Medical Arts Bldg. 64801
Chase, Ned B., Jr., 3125 Virginia St. 64803
Chesney, George W., 25th & Jackson 64803
Cohle, Richard R., Carthage 64836
Craig, Irvin T., 25th & Jackson 64803
Crawford, Archie L., Frisco Bldg. 64801
Crispell, Lawrence S. 6th & Pearl 64801
DeTar, Burleigh E., 410 Jackson 64801
Eliscu, Juliette M., 2002 Jackson 64803
Esther, John R., Ferguson's Med. Laboratories 64801
Ferguson, Lewis H., Jr., 604 Plaza Dr. 64803
Ferguson, Ralph L., Medical Arts Bldg. 64801
Ferguson, Robert M., 110 N. Webb, Webb City 64870
Fritsch, Andrew J., 2920 Pearl 64801
Grubb, Paul H., 2509 Jackson 64803
Hall, Marvin F., Medical Arts Bldg. 64801
Hallaba, M. A. S., 410 Jackson 64801
Hamilton, Eugene H., Medical Arts Bldg. 64801
Holtzman, Samuel, Medical Arts Bldg. 64801
Hornback, Edward R., 2841 E. 14th 64801
Hurst, Wilfred W., Medical Arts Bldg. 64801
Isbell, Charles H., Carthage 64836
Jeans, Virgil, Medical Arts Bldg. 64801
Kirschman, Robert E., 2529 Jackson 64803
Koehler, John W., Medical Arts Bldg. 64801
Kuhn, John R., Jr., Frisco Bldg. 64801
Laney, Ronald L., P. O. Box 434, Carlsbad, Calif. 92008
Longenecker, Joe L., 2503 Jackson 64803
McNew, William T., Carthage 64836
McPike, Lloyd H., Frisco Bldg. 64801
Mack, Mary L. (Address Unknown)
MacLaughlin, James C., Medical Arts Bldg. 64801
Maddox, John D., 6th & Pearl 64801
O'Brien, James A., 545 N. 6th St., Muskogee, Okla. 74401
Paddock, Charles S., Medical Arts Bldg. 64801
Papp, Sandor D., Medical Arts Bldg. 64801
Patterson, Donald R., 2509 Jackson 64803
Patterson, Grover S., 510 S. Main, Carthage 64836
Pence, F. Wendell, 612 S. Main, Carthage 64836
Poor, Carl W., Rt. 1, Box 302, Neosho 64850
Post, Winfred L., 617 Joplin 64801
Powell, Robert G., 2329 Jackson 64803
Royce, James J., Sarcoxie 64862
Schmidt, Herbert J., Medical Arts Bldg. 64801
Schoeberl, Cletus B., Medical Arts Bldg. 64801
Schulte, Gregory A., 2125 Jackson 64803
Scorse, Sidney W., 2509 Jackson 64803
Shanahan, Mary P., 2001 Sergeant Ave. 64801
Smith, Roland T., Medical Arts Bldg. 64801
Smith, William R., 211 E. Chestnut, Carthage 64836
Vinson, Harold A., 107 Medical Arts Bldg. 64801
Walker, Paul W., Medical Arts Bldg. 64801
Whitten, M. Foster, 616 W. Centennial, Carthage 64836
Wieman, Harry K., Medical Arts Bldg. 64801
Wilcox, Ruth E., 614a Joplin 64801
Wilson, Alice H., 1923 Sergeant 64803
Wood, George H., 1515 Hazel, Carthage 64836
Wooldridge, Bart F., Medical Arts Bldg. 64801
Young, Calvin C., Jr., Medical Arts Bldg. 64801

JEFFERSON COUNTY MEDICAL SOCIETY

Allbee, Roger H., Crystal City 63019
Bolgar, Bertalan, Festus 63028
Carron, Joseph F., Arnold 63010
Deles, Vincente D., Crystal City 63019
Donnell, Harold E., Desoto 63020
Donnell, Robert H., Crystal City 63019
Donnell, Thomas A., Desoto 63020
Edwards, Waldo B., 135 W. Adams Ave., Kirkwood 63122
Fallet, Charles E., Desoto 63020
Glasgow, David S., Crystal City 63019
Ibaviosa, Alfred C., Crystal City 63019
Judge, Walter T., Crystal City 63019
Kozal, Francis L., Crystal City 63019
McKinstry, Karl V., Desoto 63020
Mayfield, James L., Crystal City 63019
Reyes, Rosendo A., 114 Mississippi, Crystal City 63019
Rice, Carl E., Hillsboro 63050
Rutledge, John F., Festus 63028
Senn, Emmett J., Herculaneum 63048
Yoskit, Harry, Festus 63028

JOHNSON COUNTY MEDICAL SOCIETY (Warrensburg 64093)

Cada, Edward G., Warrensburg
Cooper, R. Lee, Warrensburg
Damron, Oscar H., Warrensburg
Folkner, A. L., Warrensburg
Frein, Donald E., Leeton 64761
Gonzalez, M. Garza, Warrensburg
Grove, Gulph W., Knobnoster 65336
Hanna, Hugh A., Warrensburg
Harkness, Harry, Warrensburg
Johnson, Charles S., Warrensburg
Jones, Keith D., Warrensburg
Lederer, Charles M., Warrensburg
Maxson, T. Reed, Warrensburg
Rawlins, Kelly, Holden 64040

KNOX COUNTY (North Central Counties Medical Society)

LACLEDE COUNTY (Mid-Missouri County Medical Society)

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

Baldwin, Theodore R., Lawson 64062
Best, Robert, Higginsville 64037
Boydston, Catherine, Odessa 64076
Boydston, W. Wayne, Odessa 64076
Brady, Hugh S., Concordia 64020
Brasher, Ben H., Lexington 64067
Cook, Thomas B., Richmond 64085
Cope, Joseph S., Lexington 64067
Crayton, Billy G., Waverly 64096
Crozier, Franklin A., Richmond 64085
Davault, George K., Richmond 64085
Fulkerson, Wilbur E., Higginsville 64037
Goldberg, Isadore E., Braymer 64624
Hubbard, Sally L., Higginsville 64037
Huber, K. Herbert, Richmond 64085
Kelling, Douglas G., 6817 E. 37th St., Kansas City 64129
Kelling, Jordan, Waverly 64096
Koppenbrink, Walter E., Jr., Higginsville 64037
LaHue, William C., Lexington 64067
Liston, Odus, Oak Grove 64075
McFadden, Gene A., Waverly 64096
Martin, Wilfred E., Odessa 64076
Riley, Charles T., Richmond 64085
Ward, Joe, Lexington 64067
Williams, John W., Oak Grove 64075

LAWRENCE COUNTY (Ozarks Medical Society)

LEWIS-CLARK-SCOTLAND COUNTIES MEDICAL SOCIETIES

Davis, Landis Y., Canton 63435
Gilfillan, Earl E., Memphis 63555

LINCOLN-ST. CHARLES COUNTY MEDICAL SOCIETY (St. Charles 63301)

Baird, Keim L., 2850 W. Clay St.
Barnette, Eugene, 2850 W. Clay St.
Berry, Paul T., 370 E. Wood, Troy 63379
Canty, Eugene J., 114 N. Main
Clever, Henry W., Jr., 1301 Boonslick Rd.
Commerford, John F., 1301 Boonslick Rd.
Cottey, John H., 222 S. 2nd St.
Creech, Joseph C., Troy 63379
Crider, Russell J., 222 S. 2nd St.
Damron, Edward O., Elsberry 63343
Duling, Gerald J., 2850 W. Clay St.
DuMontier, R. J., O'Fallon 63366
Felder, James P., 3008 W. Adams
Fleming, Robert J., 120 Clay
Goldkamp, John D., 2850 W. Clay St.
Gore, Glenn L., 2850 W. Clay St.
Hammes, Roman E., 2850 W. Clay St.
Hanlon, Russell C., 1301 Boonslick Rd.
Hantman, Stephen L., 3246 Greenranch Dr., Bridgeton 63042
Hetlage, Louis P., Troy 63379
Hurd, James R., 115 S. Cardinal Lane
Kamada, Tsutomu, 115 W. Pitman, O'Fallon 63366
Keller, Robert M., 704 W. Old Hwy. 40, Wentzville 63385
Kister, George E., 302 S. 2nd St.
Linsenmeyer, Charles M., 119 Clay St.
Muenster, Vincent P., 2850 W. Clay St.
Neubeiser, Ben L., 2nd & Clay Sts.

Perna, Vincent P., 100 N. Euclid Ave. St. Louis 63108
Poggemeier, William H., Jr., 302 S. 2nd St.
Randall, Don Q., 220 S. 6th St.
Ridzon, Thomas J., 2850 W. Clay St.
Roach, Edward A., 2850 W. Clay St.
Roter, Alexander M., 2414 W. Clay
Rother, Paul H., 1301 Boonslick Rd.
Schneider, Thomas A., 2850 W. Clay St.
Schuetz, Alfred, 904 Indian Hills
Scokel, Paul W., III, 2850 W. Clay St.
Slotkin, Robert J., 2850 W. Clay St.
Smoller, Martin B., 2850 W. Clay St.
Thiele, O. K., 140 N. Kingshighway
Towers, Orville W., 1301 Boonslick Rd.
Vart, Gary R., 2850 W. Clay
Westerfeld, Roy A., 1301 Boonslick Rd.
Wipfler, Earl J., Jr., 143 Cardinal La.
Yaeger, Gerald A., 2444 W. Clay St.

LINN COUNTY
(Grand River Medical Society)

LIVINGSTON COUNTY
(Grand River Medical Society

McDONALD COUNTY
(Ozarks Medical Society)

MACON COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

MADISON COUNTY
(Mineral Area County Medical Society)

MARIES COUNTY
(Mid-Missouri County Medical Society)

MARION-RALLS-SHELBY COUNTY MEDICAL SOCIETY
(Hannibal 63401)

Archer, Perry C., Shelbyville 63469
Bach, Lysle M., 1734 Market St.
Burns, Francis R., 711 Grand
Clisham, John F., B & L Bldg.
Dodson, Danny L., 400 N. Main, Monroe City 63456
Fischer, Thomas J., 2910 St. Mary's
Foreman, Phillip B., 711 Grand
Francka, W. F., 603 Country Club Dr.
Grant, Albert J., B. & L. Bldg.
Greene, Harry L., Holmes Bldg.
Hamlin, Wyeth, 711 Grand
Hinds, R. David, 2910 St. Mary's
Landau, Daniel B., 711 Grand
Lanning, Robert J., 115 N. 5th St.
Latimer, Walter N. A., B & L Bldg.
Lichty, Charles A., Shelbina 63468
Lucke, Eugene M., 4000 McMasters Ave.
Mann, James K., 4074 Hillside Dr.
Murphy, Bernard L., 2000 Crescent Dr.
Plowman, Edward M., B & L Bldg.
Purcell, P L., Smithville 64089
Rapp, Earl L., 711 Grand
Roller, Merrill J., 2910 St. Mary's
Steele, James C., Jr., 711 Grand
Strong, Richard M., 711 Grand
Walterscheid, John H., 1209 Broadway
Well, Julius W., Palmyra 63461

MERCER COUNTY
(Grand River Medical Society

MID-MISSOURI COUNTY MEDICAL SOCIETY
(Phelps-Crawford-Dent-Pulaski-Maries-Laclede Counties)

Andreassen, Dimil F., Rolla 65401
Bass, Billy J., Salem 65560
Baumann, Albert R., Steelville 65565
Bealer, Louis A., Lebanon 65536
Beene, Thomas K., Lebanon 65536
Butts, James D., Rolla 65401
Carnell, B. M., Camdenton 65020
Carrington, Howard W., Lebanon 65536
Dierker, H. D., Lebanon 65536
Drake, Avery A., Rolla 65401
Elders, Frank A., Jr., Cuba 65453
Feind, Earl E., Rolla 65401
Froelich, Rae W., Lebanon 65536
Garrison, T. W., Camdenton 65020
Hammler, Christiana V., St. James 65559
Hart, Martin M., Salem 65560
Hite, Dennis E., Lebanon 65536
Holley, Donald B., Camdenton 65020
Kays, Kenneth M., Rolla 65401
Kielar, Richard A., 45 Wheeler, Ft Leonard Wood 65475
Longo, D. V., Lebanon 65536
Lytle, William R., Rolla 65401
Miller, Clyde S., Waynesville 65583
Mitchell, Roy E., Salem 65560
Myers, James M., Rolla 65401
Porter, Jim C., Lebanon 65536
Riffel, Gordon W., Bourbon 65441
Russell, Barbara E., Rolla 65401
Sniderman, Stephen P., 90 Totten St., Ft. Leonard Wood 65473
Stager, David R., 43 McKenzie St., Ft. Leonard Wood 65473
Striker, Emil A., St. James 65559
Young, Robert B., Rolla 65401

MILLER COUNTY MEDICAL SOCIETY

Buehler, Carl T., Jr., Eldon 65026
Shelton, Edward O., Eldon 65026

MINERAL AREA COUNTY MEDICAL SOCIETY
(St. Francois-Iron-Madison-Washington-Reynolds Counties)

Appleberry, Charles H., Rivermines 63668
Brennan, John A., 7750 Kingsbury, St. Louis 63105
Bugg, Andrew F., 312 E. 3rd St., Lordsburg, N. M. 88045
Bull, Ben M., Ironton 63650
Burcham, Tom R., Jr., Farmington 63640
Carleton, Charles E., Jr., Farmington 63640
Chastain, Charles W., Farmington 63640
Cresswell, George F., Potosi 63664
Crouch, F. Richard, Farmington 63640
Dennis, W. Paul, Flat River 63601
Dettmer, Robert F., Ironton 63650
Farmer, Norma D., Farmington 63640
Farrar, Charles B., 719 N. Middle St., Cape Girardeau 63701
Ford, William, Farmington 63640
Foster, Jack L., Desloge 63601
Gaskins, Charles W., Ironton 63650
Grossman, Marvin, Fredericktown 63645
Hardy, Stanton L., Desloge 63601
Harland, Robert E., Ironton 63650
Haw, Marvin T., Jr., 1807 Jackson, Columbia 65201
Hoctor, Emmett F., Farmington 63640
Huckstep, Robert A., Farmington 63640
Hunt, John W., Jr., Farmington 63640
Karraker, Alvan G., Farmington 63640
Mardini, Edward E., Bonne Terre 63628
Menne, Marvin C., Ironton 63650
Mullen, Jack, Bonne Terre 63628
Oliver, George A., Farmington 63640
Osborn, Retus W., III, Farmington 63640
Patton, William G., 1955 Kerns Ave., San Marino, Calif. 91108
Slaughter, Shelby C., Fredericktown 63645
Taylor, Van W., Bonne Terre 63628
Turner, Kirby L., Potosi 63664
Vester, James E., Bismarck 63624
Warren, T. Thomas, Potosi 63664
Watkins, George L., Jr., Farmington 63640

MISSISSIPPI COUNTY
(SEMO County Medical Society)

MONITEAU COUNTY MEDICAL SOCIETY
(California 65018)

Fulks, Richard B., California
Gallagher, Lionel M., California
Kibbe, Edgar A., California
Latham, Kenyon S., California

MONROE COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

MONTGOMERY COUNTY MEDICAL SOCIETY

Andersen, Elmer J. T., Montgomery City 63361
Byland, Samuel J., Wellsville 63384
Helm, James O., New Florence 63363
Steinbeck, Herbert F., Medical Bldg., Montgomery City 63361

MORGAN COUNTY MEDICAL SOCIETY
(Versailles 65084)

Gunn, Jack, Versailles
Kauffman, Ruth, Versailles
Lyle, Robert R., Versailles
Washburn, J. Loren, Versailles

NEW MADRID COUNTY
(SEMO County Medical Society)

NEWTON COUNTY
(Ozarks Medical Society)

NORTH CENTRAL COUNTIES MEDICAL SOCIETY
(Adair-Schuyler-Knox-Sullivan-Putnam Counties)
(Kirksville 63501)

Buben, Robert W., Kirksville
English, Milton T., Jr., Kirksville
Freeman, Spencer L., Kirksville
Grim, Edward M., Kirksville
Hasselblad, Oliver W., 297 Park Ave., South, New York, N. Y. 10011
Hilton, Paul E., Kirksville
Isom, Waldo B., Knox City 63446
Jones, John B., 1021 Queen Ann Dr. Columbia 65201
Stickler, Ralph O., Kirksville
Tarvydas, Francis, Edina 63537
Tendai, Mark M., Kirksville

NORTHWEST MISSOURI MEDICAL SOCIETY
(Nodaway-Holt-Achison-Gentry-Worth Counties)

Bare, Edward F., Tarkio 64491
Bauman, Henry C., Maryville 64468
Blacklock, David E., King City 64463
Byland, Benjamin F., Maryville 64468
Carlin, Albert L., Stanberry 64489
Carpenter, Wallace, Rock Port 64482
Dunshee, Robert E., Maryville 64468
Humphrey, James, Mound City 64470
Imes, Elvin D., Maryville 64468
Jackson, William R., Maryville 64468
Matteson, Frank B., Grant City 64456
Morgan, Troy O., Jr., Albany 64402
Niedermeyer, Edward L., Tarkio 64491
Parsons, Bernie, Albany 64402
Wanamaker, John M., Rock Port 64482
Wempe, G. Raymond, Maryville 64468

OREGON COUNTY
(South Central Counties Medical Society)

OSAGE COUNTY
(Unorganized)

OZARK COUNTY
(South Central Counties Medical Society)

OZARKS MEDICAL SOCIETY
(Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald Counties)

Anderson, Paul B., Neosho 64850
Blankenship, George W., Neosho 64850
Bowman, Melvin C., Neosho 64850
Brasher, Charles A., Mt. Vernon 65712
Brown, Frederick B., Aurora 65605
Capetti, Alex P., Crane 65633
Carter, James R., Neosho 64850
Christianson, Charles S., Mt. Vernon 65712
Coffman, Esther E. L., 1514 13th North, Lakeworth, Fla. 33460
Cohnberg, Rosellen E., 2631-B Summit Rd., Columbia 65201
Crain, James W., Branson 65616
Dabbs, Wilbur D., Neosho 64850
Donley, Robert R., Monett 65708
Edwards, Francis L., Monett 65708
Evans, Harry T., Branson 65616
Galinsky, Leon, Mt. Vernon 65712
Gardner, Joseph W., Reeds Spring 65737
Gillispie, Roy, Branson 65616
Glass, William J., Jr., Monett 65708
Glover, Kenneth, Mt. Vernon 65712
Graves, Arthur J., Mt. Vernon 65712
Hamilton, William P., Aurora 65605
Hellweg, Charles E., Mt. Vernon 65712
Kelsey, Kenneth L., Aurora 65605
Kenney, Roy E., Neosho 64850
Kerr, Frank T., Monett 65708
Lentz, Harold C., Neosho 64850
Magness, William C., Branson 65616
Mars, Hartley F., Forsyth 65653
Moore, Allen H., Jr., Branson 65616
Morrison, T. A., Aurora 65605
Newman, Mary Jane, Cassville 65625
Olive, George C., Neosho 64850
Price, Charles H., Cassville 65625
Reynolds, James R., Neosho 64850
Roper, Stanley D., Ozark 65721
Schultz, Loraine E., Branson 65616
Shumate, L. St. Clair, Reeds Spring 65737
Spears, Charles A., Branson 65616
Sweany, Henry C., 1502 W. Broadway, Columbia 65201
Taylor, Leo T., Neosho 64850
Wommack, Fred L., Crane 65633

PEMISCOT COUNTY MEDICAL SOCIETY

Aquino, Philip J., Caruthersville 63830
Bernard, J. W., Caruthersville 63830
Cain, Charles F., Caruthersville 63830
Cook, Oliver W., Caruthersville 63830
Cooper, Lawrence E., 1274 Hanton, Fort Myers, Fla. 33901
Grable, James, Portageville 63873
Gubin, Alan S., Caruthersville 63830
McCoy, Warren R., Caruthersville 63830
McKaskle, Clarence W., Caruthersville 63830
Painter, Andrew E., Portageville 63873
Painter, Lattie B., Jr., Portageville 63873
Shirey, Arnold G., Hayti 63851

PERRY-STE. GENEVIEVE COUNTIES MEDICAL SOCIETY

Carron, Oscar A., Perryville 63775
DeGenova, Gerard H., Ste. Genevieve 63670
Fairchild, James F., Perryville 63775
Feltz, Lawrence W., Perryville 63775
Fischer, Theodore, Altenburg 63732
Lanning, Richard C., Ste. Genevieve 63670
Legner, Stanley G., Perryville 63775
Lutkewitte, Joseph F., Ste. Genevieve 63670
McDermott, Alfred E., Perryville 63775
Miller, Oliver J., 1972 Bend Rd., Cape Girardeau 63701
Utterman, William F., Perryville 63775

PETTIS COUNTY MEDICAL SOCIETY
(Sedalia 65301)

Bess, William E., 914 S. Beacon
Boger, James W., 500 W. 16th St.
Brady, Charles H., Gordon Bldg.
Braverman, Elliot M., 1501 S. Grand Ave.
Brazos, John C., Smithton 65350
Campbell, Albert J., Jr., 312 S. Ohio
Daum, Harold F., Bothwell Memorial Hosp.
Edwards, David R., 700 S. Limit
Eldenburg, Donald, 700 S. Limit
Fisher, Stanley D., Sedalia
Glass, Robert L., 3225 Monroe, Carlsbad, Calif. 92008
Gonser, Karl B., 101 S. Ohio
Hopkins, Thomas J., 700 S. Limit
Hopkins, T. Spencer, 1609 S. Limit
Lamy, John E., 509 W. Broadway
Lowe, Alvin L., 621 W. 16th St.
Maddox, Albert R., 116 W. Main
Osborne, Charles D., 710 W. Broadway
Owings, Raymond H., Bothwell Memorial Hosp.
Proctor, Donald C., 700 S. Limit
Rhodes, Euhlan L., Warsaw 65355
Roberts, Paul A., Sweet Springs 65351
Rodeman, John M., Gordon Bldg.
Siegel, Carl D., 601 E. 12th St., Room 444, Kansas City 64106
Siegel, Peter V., 3706 Corey Place, Washington, D. C. 20016
Stauffacher, C. Gordon, 700 S. Limit
Stewart, Robert H., Bothwell Memorial Hosp.
Stockwood, Robert C., 1718 S. Ingram
Van Dyke, Elmer H., 415 S. Lamine
Walter, Archie L., 500 W. 16th St.
Worley, Charles A., Sweet Springs 65351

PHELPS COUNTY
(Mid-Missouri County Medical Society)

PIKE COUNTY MEDICAL SOCIETY

Andrae, Robert L., Louisiana 63353
Christensen, Roger F., Louisiana 63353
Day, John K., 1012 Maplewood, Columbia 65201
Jackson, Edward K., Clarksville 63336
Lewellen, Charles H., Louisiana 63353
Martin, W. Joe, Louisiana 63353
Middleton, John W., Louisiana 63353
Smith, Ted P., Bowling Green 63334
Stuerman, Lawrence G., Louisiana 63353
Wilcoxen, William B., Bowling Green 63334

PLATTE COUNTY MEDICAL SOCIETY

Allen, S. Lloyd, 3809 N.W. 62 Terr., Kansas City 64119
Johnson, Leonard W., Rt. 1, Leavenworth, Kan. 66048
Kimball, Ireland W., 5621 Valley Rd., Kansas City 64151
Parker, H. Graham, Platte City 64079
Robinson, John A., Edgerton 64444
Thurman, Hill C., Parkville 64152
Vescovo, Paul C., 4106 Vivion Rd., Kansas City 64117
Voorhees, Carroll D., 316 Girard, Leavenworth, Kan. 66048

POLK COUNTY
(Dallas-Hickory-Polk County Medical Society)

PULASKI COUNTY
(Mid-Missouri County Medical Society)

PUTNAM COUNTY
(North Central Counties Medical Society)

RALLS COUNTY
(Marion-Ralls-Shelby County Medical Society)

RANDOLPH COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

RAY COUNTY
(Lafayette-Ray County Medical Society)

REYNOLDS COUNTY
(Mineral Area County Medical Society)

RIPLEY COUNTY
(Butler-Wayne-Ripley County Medical Society)

ST. CHARLES COUNTY
(Lincoln-St. Charles County Medical Society)

ST. CLAIR COUNTY
(West Central Missouri Medical Society)

ST. FRANCOIS COUNTY
(Mineral Area County Medical Society)

STE. GENEVIEVE COUNTY
(Perry-Ste. Genevieve Counties Medical Society)

ST. LOUIS MEDICAL SOCIETY
(St. Louis)

Aach, Richard D., Barnes Hospital Plaza 63110
Abel, Charles C., 4511 Forest Park Blvd. 63108
Abel, Oliver, III, 4511 Forest Park Blvd. 63108
Abell, Walter E., 2253 S. 39th St. 63110
Abrams, Morris, 4919 Forest Park Blvd. 63108
Acker, Harry L., 6150 Oakland 63110
Ackerman, Lauren V., 600 S. Kingshighway 63110
Adams, James T., 96 Oakdale Dr., Rochester, N. Y. 14618
Adler, Benard C., 4511 Forest Park Blvd. 63108
Agress, Harry, 8631 Delmar 63124
Ahern, Archibald M., 3915 Watson Rd. 63109
Ahlering, George H., 950 Francis Pl. 63105
Aitken, Louis F., 4989 Barnes Hosp. Plaza 63110
Akyol, Salim, #4 Highfield Lane 63131
Alexander, Frazier D., 4969 Enright 63108
Alexander, Harry L., 52 Maryland Plaza 63108
Allen, Henry C., Clayton Medical Bldg., 63105
Allen, Hollis N., 634 N. Grand 63103
Allen, Melvin A., 3701 Grandel Sq. 63108
Allen, Willard M., 4911 Barnes Hosp. Plaza 63110
Allen, William E., Jr., 720 N. Sarah 63108
Alonso-Yague, P., 100 N. Euclid 63108
Altheide, J. Paul, 607 N. Grand 63103
Alvis, Bennett Y., 211 N. Meramec 63105
Alvis, Edmund B., 211 N. Meramec 63105
Anderson, Charles B., Barnes Hosp. Plaza 63110
Anderson, John M., 1420 Grattan 63104
Anglo, Luis B., 4211 Bayless Ave. 63123
Anstey, George, 4660 Maryland 63108
Anthony, Elwyn J., 369 N. Taylor Ave. 63108
Arneson, Axel N., 457 N. Kingshighway 63108
Arney, William G., 16 Hampton Village Plaza 63109
Arnot, John P., 35 N. Central Ave. 63105
Aronberg, Lawrence M., 4466 W. Pine, Apt. 10-G 63108
Auer, Arthur I., 667 Langton 63105
Auer, Edward T., #9 Clayton Terr. 63131
Aufderheide, G. R., 2326 Noll Dr. 63136
Aulenbacher, Carl E., 645 S. New Ballas Rd. 63141
Aylward, Howard J., 410 Dielman Rd. 63132
Azuma, Nobutaka, 3901 Tholozan 63116
Azzouni, Joseph N., 3537 Ritz Center 63125
Babka, Joseph J., 3845 Federer Pl. 63116
Backer, Matthias H., Jr., 3923 Watson Rd. 63109
Badger, Virginia M., 113 Stoneyside Lane 63132
Bailey, Drennan, 6356 Clayton Rd. 63117
Bailey, Frank A., 3654 S. Grand 63118
Balazs, Karl J., 165 S.E. Bieney Rd., Port Charlotte, Fla. 33950
Ballinger, Walter F., II, 4960 Audubon Ave. 63110
Bandle, Donald F., 3801 January 63109
Banet, Samuel R., 7301 St. Charles Rock Rd. 63133
Banton, M. Roman, 2917 St. Louis Ave. 63106
Banton, William C., 2917 St. Louis Ave. 63106
Barden, Frank W., 41 Beaver Dr., Creve Coeur 63141
Bardenheier, J. Phil, 6400 Morganford Rd. 63116
Barner, Hendrick, 1325 S. Grand Blvd. 63104
Barrett, Scott R., 5086 Easton 63113
Barrios, Francisco, 5641 Potomac 63139
Bartels, Leo G., 906 Olive 63101
Bartlett, Robert W., 100 N. Euclid 63108
Bartlett, Willard, Jr., 6744 Clayton Rd. 63117
Bartnick, Mitchel L., 6476 Eichelberger 63109
Bassett, Robert B., 4050 N. Ocean Dr., Lauderdale by the Sea, Fla. 33308
Bauer, John D., Northland Medical Bldg. 63136
Bauer, Maria, 1935 Edison, Granite City, Ill. 62040
Bauer, Otto, 1935 Edison, Granite City, Ill. 62040
Baumann, William B., Box 439, Letterman Gen. Hosp., San Francisco, Calif. 94129
Baumgarten, Walter, Jr., 5505 Delmar 63112
Bawell, Malcolm B., 950 Francis Pl. 63105
Beard, Daniel D., 2356 Wallis 63114
Beare, J. Byron, 3720 Washington 63108
Beato, David L., 6305 Devonshire 63109
Becke, William G., 18 Lorenzo Lane 63124
Becker, Bernard, 640 S. Kingshighway 63110
Becker, Edward J., 906 Olive 63101
Becker, George H., 6744 Clayton Rd. 63117
Becker, Stanley C., 3720 Washington Blvd. 63108
Beckette, Edmund S., 950 Francis Pl. 63105
Beckman, Donald E., 205 Virginia Ave. 63111
Behrens, Donald T., 3654 S. Grand Blvd. 63118
Behrens, Gerald L., #3 Colonial Ct. 63124
Beidle, Raymond J., 500 Northwest Plaza, St. Ann 63074
Beis, Louis D., 5305 Lindenwood 63109
Belancourt, Donet F., 4503 Pope Ave. 63115
Belew, Joe E., 5505 Delmar 63112
Bell, Robert M., 3720 Washington 63108
Benage, Clarence M., 1595 Railway Exchange Bldg. 63101
Benjamin, Durand, 7430 Virginia 63111
Benson, John F., 3737 N. Kingshighway 63115
Benton, Calvin B., 1125 Belrue Ave. 63130
Berard, Louis N., 812 Olive 63101
Berg, Leonard, 4989 Barnes Hospital Plaza 63110
Berg, Ralph, 3203 S. Grand 63118
Bergman, Hugo F., 3720 Washington 63108
Bergmann, Dwayne, 427 Venneman 63122
Bergner, Grace E., 114 N. Taylor 63108
Berland, Harry I., 812 Olive 63101
Berman, William, 4919 Forest Park Blvd. 63108
Berry, John W., 9845 Northbridge 63124
Bersche, Bertram L., 23 Beaver Dr. 63141
Bettonville, Paul J., Jr., 6331 Pershing 63130
Biddy, Ralph L., 915 N. Grand Blvd. 63103
Bilsky, Nathan, 4511 Forest Park Blvd. 63108
Bindbeutel, Arthur H., 5203 Chippewa 63109
Bindbeutel, Donald A., 25 Willow Oak Lane 63122
Binder, Morton A., 4652 Maryland 63108
Bircher, John L., 3932 Federer Pl. 63116
Bird, H. Waldo, 1221 S. Grand Blvd. 63104
Birge, Clifford A., 313 Calhoun Ave., Pensacola, Fla. 32505
Bishop, Mary M., 4524 Forest Park Ave. 63108
Bisno, Daniel, 8000 Bonhomme Rd. 63105

Blair, Vilray P., Jr., #9 Stoney Brooks La. 63124
Block, Arnold S., 4919 Buckingham Ct. 63108
Blount, Lee, Jr., 3737 N. Kingshighway 63115
Bockelmann, Clifford H., 2615 Brentwood Blvd. 63117
Boedeker, Roy V., 100 N. Euclid 63108
Boemer, Lilborn C., 3720 Washington 63108
Bohne, William R., 4500 Olive 63108
Bohrer, Harry C., 607 N. Grand 63103
Boldizar, Albert G., 3720 Washington 63108
Boldt, Thomas H., Northland Medical Bldg. 63136
Bolton, Robert L., 10425 W. North, Milwaukee, Wis. 53220
Bond, Leslie F., 5801a Easton 63112
Bondurant, Bryce H., 134 Frontenac Forest 63131
Bonfanti, Albert L., P.O. Box 4148, Jennings Station 63136
Borowsky, Benjamin A., 100 N. Euclid Ave. 63108
Boswell, John R., 12918 Topping Estates North Dr. 63131
Boucher, Robert, 8 Roosevelt Ave., Concord, N. H. 03301
Boveri, Joseph C., 8201 Fendale Dr. 63123
Bowdern, Edward H., #2 Berkshire La. 63117
Bowen, Stephen F., Jr., 16 Hampton Village Plaza 63109
Bowerman, Harold H., 607 N. Grand 63103
Bowersox, Warren A., 214 N. First St., Pacific 63069
Bowles, G. Robert, 135 W. Adams 63122
Bowles, William T., 4960 Audubon 63110
Boyd, Arthur M., 1615 S. Grand Ave., 63104
Bradley, Frank R., 600 S. Kingshighway 63110
Bradley, Richard V., 35 N. Central 63105
Brady, Harry R., 47 York Dr. 63144
Brangle, Robert W., 765 High Hampton Rd. 63124
Bremser, Harry L., 1105 Tower Grove 63110
Brennan, George A., 3654 S. Grand 63118
Brennan, Robert A., 3654 S. Grand 63118
Brennan, Robert V., 111 N. Taylor 63122
Brereton, Robert L., 206 N. Clay Ave. 63122
Bricker, Eugene M., 4989 Barnes Hospital Plaza 63110
Bricker, Neal S., 660 S. Euclid 63110
Brielmaier, Charles R., 1535 N. Woodlawn 63122
Brinker, Ray A., 510 S. Kingshighway 63110
Brodeur, Armand E., 141 Horseshoe Dr., Sugar Creek Ranch 63122
Bronson, Shael S., 100 N. Euclid 63108
Brookes, Robert D., 5505 Delmar 63112
Broun, Goronwy O., 1325 S. Grand 63104
Broun, Goronwy O., Jr., 6359 Waterman 63105
Brown, E. Eugene, 7508 Cromwell Dr. 63105
Brown, James B., 100 N. Euclid 63108
Brown, James M., 4906 Southwest Ave. 63110
Brown, Seymour, #2 Ricardo La. 63124
Bruce, Helen L., 3263 Hawthorne Blvd. 63104
Bruns, Kenneth, 6318 Washington 63130
Bryan, James H., 950 Francis Pl. 63105
Bryan, William T. K., 950 Francis Pl. 63105
Budd, John J., Jr., 9313 Manchester 63119
Bugg, George W., 2508 Buchanan St., Nashville, Tenn. 37208
Burford, Cyrus E., 6655 Waterman 63131
Burford, Thomas H., Barnes Hospital Plaza 63110
Burke, Robert J., 6379 Devonshire 63109
Burkhart, Charles A., 1501 Locust St. 63103
Burkhart, Edward F., 141 N. Meramec 63105
Burks, Jess E., 3809 N. Union Blvd. 63115
Burmeister, R. William, 10834 Forest Circle Dr. 63128
Burns, Francis J., 4660 Maryland 63108
Burst, Donald O., 6500 Chippewa 63109
Busch, Anthony K., 275 Union Blvd. 63108
Bussmann, Donald W., 4 Wood Acre Rd. 63124
Butcher, Harvey R., Jr., 4960 Audubon 63110
Byars, Louis T., 100 N. Euclid 63108
Byrne, John E., 4660 Maryland 63108
Caciolo, Carlo, 3654 S. Grand Blvd. 63118
Cadice, John B., 10416 St. Ives Dr. 63136
Calkins, Delevan, 7828 Delmar Blvd. 63130
Callahan, Joseph D., 7227 St. Andrews Rd. 63121
Calodney, Martin M., 7247 Delmar 63105
Camel, H. Marvin, 310 Tanglewood Dr. 63124
Campbell, Cecil S., 812 Olive 63101
Campos, Francisco J., 100 N. Euclid 63108
Canaan, Samuel A., Jr., 6829 Clayton Ave. 63110
Cannon, Edward M., 607 N. Grand 63103
Cappel, Powel B., 27 Old Westbury 63119
Carlin, M. Richard, 100 N. Euclid 63108
Carr, Archie D., 3720 Washington 63108
Carranza, Mauro J., 2623 Telegraph Rd. 63125
Carroll, George A., 3720 Washington 63108
Carroll, Grayson, 3720 Washington 63108
Carson, Richard A., 615 S. New Ballas Rd. 63141
Carter, John F., 29 Berkshire 63117
Cary, John M., 5505 Delmar 63112
Casey, Edwin J., 4424 Hampton 63109
Cason, Elbert H., 4401 Hampton 63109
Cassel, Melvin A., 3400 N. Kingshighway 63115
Catalano, J. Denis, 903 Blue Springs Rd., Pensacola, Fla. 32505
Catanzaro, Anthony F., 2705 Clifton 63139
Catanzaro, Francis J., 1235 N. Hanley Rd. 63130
Catanzaro, Marshall J., 2238 Laverne Ct. 63144
Cate, Thomas R., 660 S. Euclid Ave. 63110
Cavanagh, Denis, 1402 S. Grand Blvd. 63104
Chamness, James T., #1 St. Andrews Dr. 63124
Chaplin, Hugh, Jr., 509 S. Euclid 63108
Charles, Benjamin H., 5505 Delmar 63112
Charles, Cecil M., 911 S. Brentwood Blvd. 63105
Charnas, Raymond M., 607 N. Grand 63103
Cherre, Anthony J., 6744 Clayton Rd. 63117
Cherre, Charles J., 4511 Forest Park Blvd. 63108
Chesanow, Robert L., 1515 Lafayette Ave. 63104
Chieffi, Margaret, 3720 Washington 63108
Chou, Yen Ping, Robert Koch Hospital, Koch 63054
Ciapciak, Stanley J., 1502 St. Louis 63106
Clark, Clarence L., 705 Questover La. 63141
Claseman, Wilma W., 6154 Westminster Pl. 63112
Cleary, Frank, 1935 Park 63104
Cleveland, Horace F., 1325 Somerset Pl., Long Beach, Calif. 90807
Clithero, William H., 1763 Royal Oaks Dr., Royal Oaks Manor, Duarte, Calif. 91010
Cloyd, Mason D., 2715 N. Union 63113
Coben, Lawrence A., 640 S. Kingshighway 63110
Coffin, Ernest L., 145 Vassar Dr., Lakeworth, Fla. 33460
Cohen, Benjamin H., 138 N. Meramec 63105
Cohen, Hillard K., 500 Northwest Plaza, St. Ann 63074
Cohen, Robert S., 215 E. 68th St., Apt. 14 W., New York, N. Y. 10021
Cole, William R., 1401 Lawnwood Dr., 63123
Collodi, George A., 20 Southcote Dr. 63117
Comens, Phillip, 6400 Chippewa 63109
Comens, Ruth C., 8826 Woodfox Dr. 63127
Comerci, George D., 1465 S. Grand Ave. 63104
Conrad, Adolph H., Jr., 911 S. Brentwood Blvd. 63105
Conrad, Marshall B., 5505 Delmar 63112
Cook, Ralph L., 44 Nolan Dr. 63122
Cooper, Henry T., 4401 Hampton Ave. 63109
Cooper, Theodore, 6711 Greyswood Rd., Bethesda, Md. 20034
Cooper, Thomas J., P.O. Box 11653, Clayton Branch 63105
Copher, Glover H., 600 S. Kingshighway 63110
Corday, Robert J., 1465 S. Grand 63104
Cordonnier, Justin, 4960 Audubon 63110
Correnti, Nicholas A., 100 N. Euclid 63108
Costa, Dominic V., 16 Hampton Village Plaza 63109
Costello, Cyril J., 100 N. Euclid 63108
Costello, Joseph P., Jr., 57 Berkshire 63117
Costen, William S., 5505 Delmar 63112
Cotlier, Edward, 660 S. Euclid Ave. 63110
Coughlin, Bertrand D., 634 N. Grand 63103
Cox, Mary E., 4524 Forest Park Blvd., 63108
Coxe, William S., 600 S. Kingshighway 63110
Crego, Clarence H., Jr., 35 N. Central 63105
Criscione, James R., 4273 Flora Pl. 63110
Criscione, James S., 114 Pryor, Apt. 893, Scott AFB, Ill. 62225
Crossman, Robert W., 1509 Holly Dr. 63119
Crotty, John P., 5444 Nottingham 63109
Crowell, Hugh C., 9764 Tesson Ferry Rd. 63123
Cuddihee, Robert E., Jr., 915 N. Grand Blvd. 63106
Cunningham, E. J., Jr., 304 E. Dartmouth Dr., Sterling Park, Va. 22170
Cutler, Harold M., 150 N. Meramec 63105
Czebrinski, Edward W., 3701 Grandel Sq. 63108
Daake, John W., 48 Portland Pl. 63108
Dabbs, LeRoy, 1420 N. Taylor 63113
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McCool, James F., Jr., 3915 Watson Rd. 63109
McCool, Stanley G., 316 N. Newstead 63108
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McFadden, James F., Sr., 7629 Wydown Blvd. 63105
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McGiff, John C., 1402 S. Grand Ave. 63104
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McKinney, Joseph K., 4500 West Pine Blvd. 63108
McLean, Harry A., 100 N. Euclid 63108
McMahon, Bernard J., 150 N. Meramec 63105
McNamara, John J., 21 Berkshire La. 63117
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Rosenhaum, Harry D., 4511 Forest Park Blvd. 63108
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Smith, Hugh R., 6500 Chippewa St. 63109
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Wiese, Harry W., 800 S. Hanley Rd. 63105
Wilbers, Raymond H., 216 S. Kingshighway 63110
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Wilson, Keith S., 52 Maryland Ave. 63108
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Wirthlin, Edward H., 3654 S. Grand 63118
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Gaines, Quentin M., 136 W. Mermod 63122
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Goldman, Hyman J., 4511 Forest Park Blvd. 63108
Gollub, Samuel W., 8112 Delmar 63130
Goodman, J. N., Rt. 1, Hardy, Ark. 72542
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Merz, Jean J., 9871 Northbridge Rd. 63124
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Schoentag, John S., 4119 Appleberry Lane 63121
Schopp, Alvin C., 634 N. Grand 63103
Schultz, E. Robert, 9840 Copper Hill Rd. 63124
Schultz, Samuel, 2730 Watson Rd. 63109
Schwartz, Melvin M., 4511 Forest Park Blvd. 63108
Schwartzman, Bernard, 4511 Forest Park 63108
Seabaugh, Ottis D., 105 W. Lockwood 63119
Seabold, John A., 408 Mission Ct. 63130
Shatz, Burton A., 4910 Forest Park 63108
Sheffield, William, Jewish Hosp., 216 S. Kingshighway 63110
Shobe, Frank O., 4500 West Pine Blvd. 63108
Silver, Bernd, 530 Warren 63130
Silverberg, Charles, 45 Rio Vista Dr. 63124
Simril, Wayne A., 35 N. Central 63105
Sisk, James C., 141 N. Meramec Ave. 63105

Skilling, David M., Jr., 5505 Delmar 63112
Skinner, John S., 31 Willow Hill Rd. 63124
Smit, Herbert M., 539 N. Grand 63103
Smith, George E., 12629 Rott Rd. 63126
Sommer, Ross B., 100 N. Euclid 63108
Soto, Alberto A., 911 S. Brentwood Blvd., Clayton 63105
Spector, Gene W., 216 S. Kingshighway 63110
Speno, Angelo A., 11815 Point Oak Dr. 63131
Spitz, Milton A., 1235 N. E. 135th St., N. Miami, Fla. 33161
Spoeneman, Marlin C., 7205 W. Florissant 63136
Staehle, Melvin E., 7124 Natural Bridge Rd. 63120
Stein, Harry J., 6917 W. Florissant 63136
Stein, Leonard P., 2618 Oregon 63118
Steiner, Alexander J., 3720 Washington 63108
Stephens, William A., 3720 Washington 63108
Sterling, John A., 1230 Kenmore Dr. 63122
Stevens, Robert W., 9311 Duenke Dr. 63137
Stewart, Frances H., 7161 Delmar 63130
Stickle, A. W., 135 W. Adams 63122
Strauchen, Gilbert W., Knoll Rd., Ocean Reef, Box 258, Rt. 1, Key Largo, Fla. 33038
Stuart, Wallace, 3654 S. Grand 63118
Stuebner, Roland W., 1930 Palm St., Marco Island, Fla. 33937
Susman, Irvin C., 216 S. Kingshighway 63110
Sutter, Richard A., 819 Locust St. 63101
Tashma, Sigmund, 904 Dalkeith 63132
Teiber, Frederick W., 3201 Washington 63103
Thiele, Belmont R., 10261 Thornwood Dr. 63124
Tobias, Norman, 634 N. Grand 63103
Tomlinson, William L., 1851 Candlewick Dr. 63131
Torin, Bernice A., 951 Old Bonhomme Rd. 63132
Townsend, Vincent F., 7532 Byron Pl. 63105
Treiman, Robert C., #7 Radnor Rd. 63131
Tremain, E. E., 2901 Big Bend 63117
Trueblood, Alva C., Jr., 325 N. Kirkwood Rd., 63122
Trunko, Leo, 1900 Telegraph Rd. 63125
Tsifutis, Argyrios, 8631 Rosalie Ave. 63144
Turner, James K., 35 N. Central 63105
Ulett, Pearl C., 54 Picardy La. 63124
Valach, Frank J., 1617 S. Brentwood Blvd. 63117
Vatterott, Paul B., 10300 St. Charles Rock Rd. 63114
Viers, Wayne A., 135 W. Adams 63122
Vinyard, Paul, 315 Church St. 63135
Viraghaty, Julius Gy., Rt. #1, Box 483, Manchester 63062
Vitale, Anthony J., 7130 Natural Bridge Rd. 63134
Vitale, Nicholas S., 7130 Natural Bridge Rd. 63134
Vollmar, Clarence J., 8787 Big Bend 63119
Votaw, Robert E., 10 Warson Terr. 63124
Walker, Harvey, Jr., 35 N. Central 63105
Walker, Willard B., 35 N. Central 63105
Walter, William L., 135 W. Adams 63122
Walther, Roy A., Jr., #7 High Acres 63132
Wamsley, James R., 13046 Ferntrails La. 63141
Waters, E. B., Defiance 63341
Weber, Sol, 1755 S. Grand Ave. 63104
Weber, William K., 4323 Gladwyn Dr., Bridgeton 63044
Weinhaus, Robert S., 7165 Delmar 63130
Weisbrod, Wilfred B., 1805 Gravois 63104
Weisman, Renate D., 500 Northwest Plaza, St. Ann 63074
Weisman, Sol, 4652 Maryland 63108
Wenneker, Alvin S., 8112 Delmar 63130
West, Joseph W., 135 W. Adams 63122
Westrup, Ellsworth A., 8540 Big Bend 63119
Whitener, Miles C., 3109 Brown Rd. 63114
Whitener, Paul R., 3109 Brown Rd. 63114
Wiedershine, Leonard J., 4511 Forest Park Blvd. 63108
Windsor, Charles E., 4511 Forest Park 63108
Wissmath, Frank S., 35 N. Central Ave. 63105
Wittler, Harry A., 1919 Karlin Dr. 63131
Wolfe, Edward, 1217 Francis Place 63117
Wolff, Harold D., 4511 Forest Park Blvd. 63108
Womack, Granville J., 22 LaGorce Dr., Chesterfield 63017
Wood, James A., 141 N. Meramec 63105
Wool, Gerald, 5247 C Broadway, APO Seattle, Wash. 98737
Wulff, George J. L., Jr., 5505 Delmar 63112
Wyatt, Lois C., 134 W. Adams 63122
Yanow, Mitchell, 141 N. Meramec 63105
Yap, Mardonio J. R., Jennings & W. Florissant, Jennings 63136
Zimmerman, Herbert B., 17 Spoede Woods 63141
Zwirn, Benjamin H., Northland Medical Bldg. 63136

SALINE COUNTY MEDICAL SOCIETY
(Marshall 65340)

Aiken, George A., Marshall
Aiken, Richard F. Marshall
Blalock, Robert W., Marshall
Day, Anthony B., Marshall
Haynes, Robert C., Marshall
Knipschild, B. F., Marshall
Lawrence, John R., Marshall
McBurney, C. A., Slater 65349
McCorkle, E. Lee, Marshall
McCoy, Donald L., Marshall
Mead, Samuel T., Slater 65349
Raynor, Richard, Marshall
Reid, James A., Marshall
Roehrs, Marvin E., Marshall
Watson, Cecil L., Marshall

SCHUYLER COUNTY
(North Central Counties Medical Society)

SCOTLAND COUNTY
(Lewis-Clark-Scotland County Medical Society)

SCOTT COUNTY
(SEMO County Medical Society)

SEMO COUNTY MEDICAL SOCIETY
(Stoddard-New Madrid-Mississippi-Scott Counties)
(Sikeston 63801)

Bruce, Leo A., Sikeston
Buckthorpe, Thelma C., Sikeston
Colbert, Robert S., Sikeston
Comeau, Richard, Dexter 63841
Critchlow, William C., Sikeston
Davis, Wilbur L., Charleston 63834
Dunaway, Howard A., Sikeston
Ellis, Burnett E., Gideon 63848
Ferguson, Wilson J., Sikeston
Finney, William O., Chaffee 63740
Frazier, Robert L., Charleston 63834
Heeb, Max A., Sikeston
Husted, George W., Parma 63870
McClure, Thomas C., 5310 N.E. 32nd Ave., Fort Lauderdale, Fla. 33308
Marshall, Alfred H., Charleston 63834
Martin, Andrew D., Sikeston
Page, Jesse W., Sikeston
Parks, Stephen, Sikeston
Popp, Carl G., Sikeston
Reeder, Charles C., Smithville Clinic, Smithville 64089
Rehm, Ralph, Bloomfield 63825
Rolwing, E. Charles, Charleston 63834
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse 63868
Shell, William C., Sikeston
Throgmorton, Howard B., Sikeston
Till, Bennie N., Dexter 63841
Tull, Frank, Sikeston
Urban, Edgar D., Sikeston
Waddle, Theodore L., Dexter 63840
Waltrip, Roy T., Jr., Sikeston
Whitaker, T. H., East Prairie 63845

SHANNON COUNTY
(Carter-Shannon County Medical Society)

SHELBY COUNTY
(Marion-Ralls-Shelby County Medical Society)

SOUTH CENTRAL COUNTIES MEDICAL SOCIETY
(Howell-Oregon-Texas-Wright-Douglas-Ozark Counties)

Callihan, Charles F., West Plains 65775
Coffee, Amos L., Willow Springs 65587
Cooper, Claude W., Thayer 65574
Denney, Richard W., Mountain Grove 65711
Dreyer, William F., Houston 65483
Fowler, Marvin L., West Plains 65775
Frame, Homer G., Cabool 65445
Gentry, Marvin C., Ava 65608
Hasek, James A., Mountain Grove 65711
Hasek, O. Martin, Mountain Grove 65711
Miller, Harold W., Willow Springs 65587
Morgan, W. Thomas, Jr., West Plains 65775
Smith, C. Franklin, Willow Springs 65587
Smith, Rollin H., West Plains 65775
Spears, Joe L., Cabool, 65445
Tiffany, Delbert E., Mountain View 65548
Walker, Ambrose T., Mammoth Spring, Ark. 72554
Wall, Joe A., Houston 65483
Walton, Marion C., Mountain View 65548
Wiles, Jack N., West Plains 65775
Wilson, John E., 509 Laurel Dr., Columbia 65201

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(SEMO County Medical Society)

STONE COUNTY
(Ozarks Medical Society)

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TANEY COUNTY
(Ozarks Medical Society)

TEXAS COUNTY
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(Mineral Area County Medical Society)

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(Butler-Wayne-Ripley County Medical Society)

WEBSTER COUNTY MEDICAL SOCIETY

Bareis, Robert J., Marshfield 65706
Macdonnell, Thomas M., Marshfield 65706

WEST CENTRAL MISSOURI MEDICAL SOCIETY
(Bates-Cass-Cedar-St. Clair-Vernon Counties)

Allen, Claude J., Rich Hill 64779
Allen, William H., Nevada 64772
Barger, O. B., Harrisonville 64701
Barone, Paul L., Nevada 64772
Baska, Richard E., 2116 W. 49th, Shawnee Mission, Kan. 66205
Brownsberger, Robert H., Appleton City 64724
Davis, C. Braxton, Nevada 64772
Doggett, Sylvester, Sikeston 63801
Eklund, Alfred W., Pleasant Hill 64080
Ellett, William H., Appleton City 64724
Giesler, Donald H., Osceola 64776
Hansen, Arthur L., Butler 64730
Haynie, William W., Butler 64730
Jones, Edward S., Harrisonville 64701
King, Elbert R., Route 2, Boise, Idaho 83702
Lane, Jerald P., 424 S. Greensboro St., Carrboro, N. C. 27510
Langeluttig, Harry V., Jr., Nevada 64772
Long, Curtis W., Butler 64730
Long, David S., Harrisonville 64701
Lusk, Charles A., Jr., Butler 64730
Luter, Carter W., Butler 64730
McCann, Louis P., Nevada 64772
Magee, Robert L., El Dorado Springs 64744
Martin, Forrest L., Nevada 64772
Masor, Nathan A., Butler 64730
Moody, Jackson C., Harrisonville 64701
Mullinax, Orr, Nevada 64772
Pascoe, James J., Nevada 64772
Pearse, Roy W., Jr., Nevada 64772
Pickens, E. Allen, 4370 Chateau de Ville Dr., St. Louis 63129
Richter, William B., Stockton 64785
Rinck, Edward C., Nevada 64772
Ronald, Douglas C., Butler 64730
Seevers, Ruth, Osceola 64776
Strobach, Robert L., Butler 64730
Thies, Jerome H., Osceola 64776
Tracy, Herbert A., Belton 64012
Wheeler, Robert L., Harrisonville 64701
Williams, Thomas A., 7300 Washington, Kansas City 64114
Wray, Rolla B., Nevada 64772

WORTH COUNTY
(Northwest Missouri Medical Society)

Woman's Auxiliary to MSMA

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International Health
Mrs. Frank J. Valach
4 Nassau Circle, Creve Coeur 63141
Legislation
Mrs. Robert Bregant
1017 Laurel Dr., Jefferson City 65101
Members-at-Large
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Concordia 64020
Mental Health
Mrs. James S. Key
2278 Englewood, Springfield 65804
Organization and Membership
Mrs. C. Stuart Exon
916 Boonville Rd., Jefferson City 65101

Press and Publicity
Mrs. James R. Nakada
2 Huntleigh Downs, Frontenac 63131
Program
Mrs. Robert D. Sanders
4212 Flora Pl., St. Louis 63110
Rural Health
Mrs. C. B. Schoeberl
3111 E. 4th, Joplin 64801
Safety and Disaster Preparedness
Mrs. F. Thomas Moseley
2837 Lomita Circle, Springfield 65804

FALL CONFERENCE—October 23-24, 1968—Lamplighter Motor Motel, Columbia

SPECIAL COMMITTEES

Nominations
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616 Ridgeway Dr., Liberty 64068
Mrs. Robert Mayer
7509 Wayne Ave., University City 63130
Mrs. Keith D. Jones
910 E. Clark, Warrensburg 64093
Mrs. J. H. Hill
8115 Meadow Lane, Leawood, Kan. 66206
Mrs. Stanley D. Fisher
2200 S. Kentucky, Sedalia 65301
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Mrs. James A. Reid
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Mrs. W. L. Fair
1705 Calhoun, Chillicothe 64601
Mrs. James C. Denninghoff
1906 Vassar, Columbia 65201
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Mrs. Marshall T. Metzgar
1205 Fieldcrest, Columbia 65201
Mrs. Paul R. Whitener
3291 Carlow Pl., St. Louis 63074
Representative to MSMA Committee on Nursing and Paramedical Personnel
Mrs. Roger Bumgarner
Route 1, Columbia 65201

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Joseph L. Fisher, M.D.
7th and Jules Sts., St. Joseph 64501
Walter T. Gunn, M.D.
4617 Dahlia, St. Louis 63116

ORGANIZED COUNTIES AND THEIR PRESIDENTS

LISTED ALPHABETICALLY

Audrain
Mrs. David Rouse
Hickory Hill Dr., Mexico 65265
Buchanan
Mrs. Paul Beck
3216 Coronado Rd., St. Joseph 64505
Boone
Mrs. Carl J. Marienfeld
304 Longfellow, Columbia 65201
Butler-Ripley-Wayne
Mrs. William D. Robertson
900 N. St., Poplar Bluff 63901
Callaway
Mrs. Henry Durst
1 Ivy Lane, Fulton 65251
Cape Girardeau
Mrs. James W. Terry
2530 Jonquil Lane, Cape Girardeau 63701
Clay
Mrs. Richard Bowles
414 North Ridge, Liberty 64068
Cole
Mrs. Earl Loyd
114 South Binder Dr., Jefferson City 65101
Cooper
Mrs. T. C. Beckett
725 4th, Boonville 65233
Dunklin
Mrs. Charles Cash
College Street, Kennett 63857
Franklin-Gasconade-Warren
Mrs. Raymond J. Bozzo
No. 6 Catawba Pl., Washington 63090
Grand River
Mrs. Chester Clark
13 Town and Country, Trenton 64683
Green
Mrs. William M. Walker
2805 Southern Hills Blvd., Springfield 65804
Jackson
Mrs. Bellfield Atcheson
6524 Overhill Rd., Shawnee Mission, Kan. 66208
Jasper
Mrs. Ted Chase
2931 Indiana, Joplin 64801
Jefferson
Mrs. Harold E. Donnell
Box 571, De Soto 63020
Johnson
Mrs. Reed Maxson
Arilen Acres, Warrensburg 64093
Lafayette-Ray
Mrs. Jordan Kelling
Waverly 64096
Lincoln-St. Charles
Mrs. R. E. Hammes
505 Concordia, St. Charles 63301
Miller-Morgan-Moniteau
Mrs. Kenyon Latham
200 South High, California 65018

Mineral Area
Mrs. C. W. Chastain
Highway F, Farmington 63640

Pettis
Mrs. John Brazos
Route 2, Sedalia 65301

Semo
Mrs. William Shell
Sikeston 63801

St. Louis City
Mrs. James N. Haddock
111 Firwood Dr., Webster Groves 63119

St. Louis County
Mrs. Nathan Kimelman
21 Granada Way, St. Louis 63124

Saline
Mrs. Donald L. McCoy
1160 S. Redman, Marshall 65340

South Central
Mrs. Wm. F. Dryer
Houston 65483

West Central
Mrs. Wm. W. Haynie (Acting Pres.)
605 Summit, Butler 64730

AUXILIARIES AND COUNTY MEDICAL SOCIETIES LISTED BY DISTRICTS

FIRST DISTRICT: Andrew,* Buchanan, Clay, Clinton,* Grand River (Caldwell, Carroll, Daviess, DeKalb, Grundy, Harrison, Linn, Livingston, Mercer), Northwest Missouri (Nodaway, Holt, Atchison, Gentry, Worth),* Platte.*

SECOND DISTRICT: Chariton-Macon-Monroe-Randolph,* Clark-Lewis-Scotland,* Marion-Ralls-Shelby,* North Central (Adair, Knox, Putnam, Schuyler, Sullivan).*

THIRD DISTRICT: St. Louis City.

FOURTH DISTRICT: Franklin-Gasconade-Warren, Jefferson, Lincoln-St. Charles, St. Louis County.

FIFTH DISTRICT: Audrain, Boone, Callaway, Camden,** Cole, Cooper, Howard,* Miller-Morgan-Moniteau, Montgomery,* Osage.**

SIXTH DISTRICT: Benton,* Henry,* Johnson, Lafayette-Ray, Pettis, Saline, West Central (Bates, Cass, Cedar, St. Clair, Vernon).

SEVENTH DISTRICT: Jackson County.

EIGHTH DISTRICT: Barton-Dade,* Dallas-Hickory-Polk,* Greene, Jasper, Ozarks** (Barry, Christian, Lawrence, McDonald, Newton, Stone, Taney),* Webster.*

NINTH DISTRICT: Carter-Shannon,* Mid-Missouri (Crawford, Dent, Laclede, Maries, Phelps, Pulaski),* South Central (Douglas, Howell, Oregon, Ozark, Texas, Wright).

TENTH DISTRICT: Bollinger,** Butler-Ripley-Wayne, Cape Girardeau, Dunklin, Mineral Area (Iron, Madison, Reynolds, St. Francois, Washington), Pemiscot,* Perry-Ste. Genevieve, SEMO (Mississippi, New Madrid, Scott, Stoddard).*

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* No organized Auxiliary.
** No Medical Society.

PAST STATE PRESIDENTS—1924-1967

Mrs. George H. Hoxie* (Jackson)**	1924-25
Mrs. M. P. Overholzer* (West Central)	1925-26
Mrs. Arthur B. McGlothlan (Buchanan)** 821 N. 24th St., St. Joseph 64506	1926-27
Mrs. W. M. Bickford* (Saline)	1927-28
Mrs. Willard Bartlett, Sr. (St. Louis City) 53 Westmoreland Pl., St. Louis 63108	1928-29
Mrs. M. P. Ravenal* (Boone)	1929-30
Mrs. A. W. McAlester* (Jackson)	1930-31
Mrs. U. J. Busiek (Greene) 1635 E. Walnut, Springfield 65802	1931-32
Mrs. David S. Long (West Central) M. 40, Lake Lotawana, Lee's Summit 64063	1932-33
Mrs. Hudson Talbot (St. Louis City) 405 Winton Lane, Louisville, Ky. 40206	1933-34
Mrs. W. H. Goodson* (Clay)	1934-35
Mrs. M. Pinson Neal* (Boone)	1935-36
Mrs. Walter C. Kirchner* (St. Louis City)	1936-37
Mrs. Charles H. Werner* (Buchanan)	1937-38
Mrs. Herbert L. Mantz (Jackson) 1209 Romany Rd., Kansas City 64113	1938-39
Mrs. Paul F. Cole (Greene) 1819 Maine St., Quincy, Ill. 62301	1939-40
Mrs. S. P. Howard* (Cole)	1940-41
Mrs. J. J. Drace (Cape Girardeau) 903 Bellevue, Cape Girardeau 63701	1941-42
Mrs. Frank L. Davis* (St. Louis City)	1942-43
Mrs. Robert C. Haynes (Saline) 754 Eastwood, Marshall 65340	1943-44
Mrs. J. B. McCubbin (Callaway) 531 E. 20th, New York, N. Y. 10010	1944-45
Mrs. Harry M. Gilkey* (Jackson)	1945-46
Mrs. W. E. Koppenbrink, Sr. (Lafayette-Ray) 1303 Main, Higginsville 64037	1946-47
Mrs. W. L. Allee* (Miller-Morgan-Moniteau)	1947-48
Mrs. August A. Werner* (St. Louis City)	1948-49
Mrs. John J. O'Connell (St. Louis County) 1937 O'Connell Ave., Overland 63114	1949-50
Mrs. Dwight T. VanDel (Jackson) 7531 Terrace, Kansas City 64114	1950-51
Mrs. W. Carey Cheek (Greene) 1535 E. Meadowmere, Springfield 65804	1951-52
Mrs. Richard A. Sutter (St. Louis County)** 7215 Greenway Dr., University City 63130	1952-53
Mrs. C. Alex McBurney (Saline) 927 Hurt St., Slater 65349	1953-54
Mrs. Wilfred E. Martin (Lafayette-Ray) 403 S. 2nd, Odessa 64076	1954-55
Mrs. Frank B. Leitz (Jackson) 308 W. 116th, Kansas City 64114	1955-56
Mrs. Charles T. Shepherd (St. Louis County) 10 Covington Meadows, St. Louis 63131	1956-57
Mrs. Armand D. Fries (St. Louis City) 11 W. Geyer Lane, St. Louis 63131	1957-58
Mrs. Henry C. Bauman (Nodaway-Holt-Atchison-Gentry-Worth) 929 W. 3rd, Maryville 64468	1958-59
Mrs. Stanley S. Peterson (Greene) 721 E. Stanford, Springfield 65804	1959-60
Mrs. Jordan Kelling (Lafayette-Ray) P. O. Box 171, Waverly 64096	1960-61
Mrs. Frederick E. Wade (Jackson) 413 W. 62nd St., Kansas City 64113	1961-62
Mrs. J. Martyn Schattyn (St. Louis County) 9 Huntleigh Downs, Frontenac, St. Louis 63131	1962-63
Mrs. Lawrence S. Crispell (Jasper County) 911 Kensington, Joplin 64801	1963-64
Mrs. Delevan Calkins* (St. Louis City)	1964
Mrs. Ralph Woods Bohnsack (Grand River) 635 Skyline Dr., Brookfield 64628	1964-66
Mrs. Wallace R. Stacey (Jackson) 3407 Shady Bend Dr., Independence 64052	1966-67
Mrs. John M. Williams (Clay) 616 Ridgeway Drive, Liberty	1967-68

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* Deceased.
** National President.

Roster of Woman's Auxiliary Members by Society

AUDRAIN COUNTY
(Mexico 65265)

Boyce, Mrs. John M., 1321 Rosebud
Davis, Mrs. Leonard L., Jr., 725 Lakeview
Dwyer, Mrs. Thomas L., 301 N. Cole
Ekern, Mrs. H. Peter, Route 2
Epple, Mrs. Lawrence K., 502 E. Monroe
Garcia, Mrs. C. L., 8 Melody Lane
Jolley, Mrs. J. F., 726 W. Monroe
Jolly, Mrs. Ben N., 1421 S. Jefferson Rd.
Kittelberger, Mrs. George William, 1101 West St.
Lankford, Mrs. Harold D., 9 Park Circle
O'Brien, Mrs. Harry F., 408 Harvard
Parrish, Mrs. J. C., 206 W. State, Vandalia, Mo. 63382
Rodes, Mrs. Ned D., 625 Lakeview
Rouse, Mrs. David M., 1415 Hickory Hill
Wallace, Mrs. Ed S., 811 S. Jefferson

BOONE COUNTY
(Columbia 65201)

Allen, Mrs. Horace E., 1406 Bass Ave., Apt. 1C
Allen, Mrs. Joseph, 5813 St. Charles Rd.
Allen, Mrs. William, 508 W. Briarwood Lane
Almond, Mrs. Carl, 213 W. Blvd. South
Altman, Mrs. Harold, 2305 Whitegate Dr.
Arnold, Mrs. Richard C., 814 Yale
Asel, Mrs. Norman, 1112 S. Glenwood
Baker, Mrs. James M., Route 4
Baker, Mrs. Sherwood A., 2620 Walther Gt.
Basket, Mrs. Edgar, 1316 Bass Ave.
Bingham, Mrs. Hal G., 1318 Ridge Rd.
Black, Mrs. Samuel, 300 S. Glenwood
Bradford, Mrs. O. F., Frederick Apts.
Brooke, Mrs. Clement E., 901 Edgewood
Bruner, Mrs. Claude, 511 S. Glenwood
Buessler, Mrs. John A., 606 Longfellow Lane
Bumgarner, Mrs. James, 1815 Rollins
Bumgarner, Mrs. Roger, Route 1
Burns, Mrs. Thomas W., 310 E. Brandon Rd.
Bynum, Mrs. William R., 2606 Luan Court
Chalkley, Mrs. Judson, 614 W. Stewart Rd.
Chapman, Mrs. C. Larry, 313 E. Briarwood Lane
Cheek, Mrs. Charles W., 1010 Yale
Cochran, Mrs. Donald, 112 Sappington
Cooper, Mrs. Maurice, 1000 Wayne Rd.
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Crouch, Mrs. Richard, 308 Hitt Manor House Apt.
Culley, Mrs. Thomas, 1506 University
Darnell, Mrs. Thomas F. B., 2617 Walther Ct.
Davis, Mrs. David, 801 Crestland
Denninghoff, Mrs. James C., 1906 Vassar
DeWcese, Mrs. Marion, 807 Stewart Rd.
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Froelich, Mrs. Robert E., 604 W. Broadway
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Garrett, Mrs. Glen, 102 E. Brandon Rd.
Gaunt, Mrs. William D., 1117 S. Glenwood
Griffin, Mrs. William T., 107 Westwood
Grunberg, Mrs. Emile, 411 Bourne Ave.
Hall, Mrs. David G., 1014 S. Glenwood
Hall, Mrs. John, 308 Hitt
Hardwicke, Mrs. Henry, Ashland 65010
Harris, Mrs. Robert J., 2008 Hazelwood Dr.
Ide, Mrs. Carl, 600 Laurel Drive
Jackson, Mrs. Robert L., 1103 W. Stewart Rd.
Johnson, Mrs. Richard, 129 Taylor
Keown, Mrs. Kenneth, 402 Westmount
Kerr, Mrs. Earl S., 1308 Fieldcrest
La Chance, Mrs. Leopold, 324 S. Collier, Centralia 65240
Ladenson, Mrs. Roland, 704 Westmount
Leech, Mrs. Gharles, 815 W. Stewart Rd.
Leeper, Mrs. Sidlee W., 606 Stewart Rd.
Logue, Mrs. John, 912 Crestland
Lohmar, Mrs. Roland E., 1020 Crestland
Mackenzie, Mrs. James William, 509 Westmount
Marco, Mrs. Philip J., 1015 College Park Dr.
Marienfeld, Mrs. Carl, 304 Longfellow La.
Martt, Mrs. Jack M., 2205 Danforth Ct.
Mayer, Mrs. William D., 1000 Lakeshore Dr.
McElroy, Mrs. Glenn, Route 3
Metzgar, Mrs. Marshall T., 1205 Fieldcrest
Miller, Mrs. LeRoy, 32 Bingham Rd.
Mitchell, Mrs. Frank, 819 Greenwood Ct.
Overholser, Mrs. Milton, 110 E. Brandon Rd.
Parrish, Mrs. Henry M., 1905 Dartmouth
Payne, Mrs. John, Route 5, Fulton 65251
Pearman, Mrs. Carl C., 923 College Park
Perez-Mesa, Mrs. Carlos, 609 Stewart Rd.
Pfefer, Mrs. Leland U., 2201 West Blvd. S.
Pingleton, Mrs. William, 113 Tracy Dr.
Plumlee, Mrs. John E., 2606 Summit Rd.
Pugh, Mrs. Reginald, 1008 Hickory Hill Dr.
Rall, Mrs. Kenneth L., 1121 Danforth Dr.
Rink, Mrs. Richard A., 209 Rothwell Dr.
Robnett, Mrs. Dudley A., 2103 S. Country Glub Dr.
Rodgers, Mrs. Elrie, 202 S. Glenwood
Ross, Mrs. Gilbert, 300 McNabb Dr.
Russell, Mrs. Garth, 1210 W. Broadway
Scheuber, Mrs. Charles, 505 W. Boulevard S.
Senhauser, Mrs. Donald A., 1801 Ridgemont
Sights, Mrs. Warren P., 309 Tracy Dr.
Silherman, Mrs. Henry K., 1012 Hickory Hill Dr.
Simmons, Mrs. Earl M., Jr., 2216 Ridgefield Dr.
Smith, Mrs. Grafton A., 917 Crestland
Smith, Mrs. J. Ned, Jr., 701 W. Boulevard S.
Smith, Mrs. Joe R., 222 E. Parkway
Spratt, Mrs. John, Jr., 105 S. Glenwood
Spurgeon, Mrs. Milo, 404 Edgewood
Stephenson, Mrs. Hugh E., 1004 Falcon Dr.
Stewart, Mrs. William J., Route 5
Stoy, Mrs. Robert, 4525 Grace Ellen
Templeton, Mrs. Arch, 1201 Sunset Dr.
Thomas, Mrs. Horace E., 503 Russell Blvd.
Thomas, Mrs. Robert M., 2215 Danforth Ct.
Thompson, Mrs. Ian M., 504 Edgewood
Tinsley, Mrs. John C., 104 S. Glenwood
VanLeeuwen, Mrs. Gerald, 511 Westridge Dr.
VanPeenen, Mrs. Hubert J., 700 Westmount
Waggoner, Mrs. Charles, 712 Hilltop Dr.
Wakerlin, Mrs. George E., 3002 Bray Ave.
Walters, Mrs. John, 1027 Hickory Hill Dr.
Washington, Mrs. Edward L., 204 W. Stewart Rd.
Watson, Mrs. Trevor F., 2319 Bluff Blvd.
Weiss, Mrs. James, Route 2
Wheeler, Mrs. Paul, 405 Thilly
Wilson, Mrs. George P., 918 Westwinds Dr.
Wilson, Mrs. Vernon, Route 4
Windmiller, Mrs. M. Eugene, 210 S. Glenwood
Wolcott, Mrs. Lester, 2417 Beachview Dr.
Wollschlaeger, Mrs. Paul, 1724 E. Broadway
Woodruff, Mrs. Calvin W., 1021 Lakeside Dr.

BUCHANAN COUNTY
(St. Joseph)

Acuff, Mrs. Robert P., 3015 Miller Rd. 64506
Baker, Mrs. W. C., Savannah, Mo. 64485
Beck, Mrs. Paul M., 3216 Coronado Rd. 64505
Beheler, Mrs. Edward M., 34 Ridgeland 64505
Benson, Mrs. Scott C., 324 N. 6th 64501
Berney, Mrs. Francis J., 1225 N. 10th St. 64501
Bristow, Mrs. Robert B., 1610 Ashland 64506
Bryant, Mrs. Sydney L., 1805 N. 33rd 64506
Butler, Mrs. E. F., 3110 Douglas 64506
Callman, Mrs George, PO Box 655, Fairleigh Station 64506
Garle, Mrs. H. W., Jr., 2707 N. 26th 64506
Carpenter, Mrs. G. T., 2612 Indian Trial Dr. 64506
Challener, Mrs. Wm. A., III, 3841 Maplewood Dr. 64506
Chiarottino, Mrs. Joseph F., 11 Lindenwood La. 64505
Christ, Mrs. Martin H., 414 Benton Dr. 64504
Cox, Mrs. John P., 1907 N. 33rd 64506
Craig, Mrs. Owen W. D., 1625 Crescent Dr. 64506
Craig, Mrs. Richard D., 3900 Miller Rd. 64505
Day, Mrs. Maxwell, 2111 Lovers La. 64505
DuMont, Mrs. Clement, 1905 Francis 64501
Durham, Mrs. S. L., Dearborn 64439
Fisher, Mrs. Joseph L., 2903 Ashland 64506
Forgrave, Mrs. John R., 2611 Cornell 64506
Forgrave, Mrs. Leon Paul, Hundley Dr. 64506
Forman, Mrs. George W., 2412 Ashland 64506
Gray, Mrs. W. W., 3102 S. 22nd 64503
Grimes, Mrs. Manning E., 815 N. Noyes Blvd. 64506
Gunter, Mrs. Joe S., 1609 Ashland 64506
Hartigan, Mrs. F. X., 1801 Ashland 64506
Hayes, Mrs. Paul W., 610 N. Noyes Blvd. 64506
Herman, Mrs. Allen I., 1909 N. 32nd 64506
Howden, Mrs. T. L., 2723 Francis 64501
Ide, Mrs. Lucien W., 1416 N. 25th 64506
Jiminez, Mrs. Jose, State Hospital, Box 263 64502
Kieber, Mrs. R. W., 1915 N. 33rd 64506
Kline, Mrs. Edmund W., 17 Stonecrest 64506
Knepper, Mrs. Paul, 2002 Ashland 64506
Kulowski, Mrs. Jacob, 2515 Francis 64501
Lee, Mrs. Carleton H., 2716 Douglas 64506
Lehman, Mrs. Philip, 3909 Mitchell Ave. 64507
Lopez, Mrs. Fernando, 3411 Normandy Rd. 64505
Luckinbill, Mrs. Paul, Plattsburg 64477
Mabrey, Mrs. John P., Plattsburg 64477
Maginn, Mrs. R. L., 12 Wishbone Rd. 64506
Marston, Mrs. F. James, 2114 Lovers La. 64505
Martin, Mrs. John, 9 Lindenwood La. 64505
McDaniel, Mrs. John R., 1808 N. 29th 64506
McDonald, Mrs. Wilbur P., 6 Country Club Rd. 64505
McGlothlan, Mrs. A. B., 821 N. 24th 64506
Meluney, Mrs. S. E., 1810 N. 30th 64506
Moen, Mrs. Berwyn H., 2214 Carper Dr. 64506
Morse, Mrs. Marvin W., 2702 Faraon 64501
Mothershead, Mrs. John L., 2630 Fairleigh Terr. 64506
Ness, Mrs. Carl K., 8 Lindenwood La. 64505
O'Brien, Mrs. Liam, State Hospital, Box 263, 64502
O'Connor, Mrs. William B., 2316 N. 22nd 64505
Ozenberger, Mrs. Larry, West Grogan St., Plattsburg 64477
Pe, Mrs. Romualdo, 903 Robidoux 64501
Petersen, Mrs. Harold E., 2902 Frederick 64506
Pfeffer, Mrs. Robert, 1915 N. 29th 64506
Pifer, Mrs. Lawrence H., 2120 Manchester Rd. 64505
Potter, Mrs. Caryl, Jr., 2232 Eugene Field Ave. 64505
Potter, Mrs. Thompson E., 2106 Lovers La. 64505
Redmond, Mrs. William, 3102 Jule 64501
Riddell, Mrs. Richard V., 2610 Indian Trail Dr. 64506
Rogers, Mrs. John T., 2502 Ashland 64506

Rosenthal, Mrs. Irwin, 2715 Union 64506
Rost, Mrs. William B., 2221 Northwest Ext. 64506
Roundy, Mrs. Collis I., Rd. 2 64505
Saferstein, Mrs. T. H., 2903 Sherman 64504
Senne, Mrs. Herbert C., 1308 S. Noyes 64507
Shevlin, Mrs. Charles F., 804 N. 25th 64506
Sklenar, Mrs. Donald E., 3910 N. 71 Highway 64506
Smith, Mrs. Clifton, 2821 Ashland 64506
Stallard, Mrs. Donald J., 1417 N. 25th 64506
Stevens, Mrs. Edward, 2913 Joslin Lane 64506
Thomas, Mrs. Forrest, 1301 N. 25th 64506
Thompson, Mrs. F. Gregg, Jr., 631 Hall 64506
Thompson, Mrs. F. Gregg, III, 2714 Ashland 64506
Tovar, Mrs. Manuel, 3209 Douglas 64506
Wadlow, Mrs. Ernest E., 2611 Lovers La. 64506
Waggoner, Mrs. Sharon E., 5820 S. 3rd 64504
Weed, Mrs. Randall W., 1821 Clay 64501
Weinand, Mrs. Ernest, 2002 N. 29th 64506
Whitsell, Mrs. Ora Earl, 2306 Sacramento 64507
Willman, Mrs. Charles, 2105 Lovers La. 64505
Willumsen, Mrs. Henry C., 2209 Eugene Field Ave. 64506

BULTER-RIPLEY-WAYNE COUNTIES
(Poplar Bluff 63901)

Barbour, Mrs. Marvin R., 1721 N. Main
Biggs, Mrs. Fred J., 808 N. Main
Brookreson, Mrs. A. Davis, 700 Hendrix Dr.
Brookreson, Mrs. Alton F., PO Box 940
Caldwell, Mrs. Fred, 2008 King Rd.
Dinelli, Mrs. Frank E., Route 1
Engelhardt, Mrs. Robert C., 1513 Rosedale La.
Gernstetter, Mrs. S. L., P. O. Box 337
Hansbrough, Mrs. Eugene T., 1111 Fairmount
Hecker, Mrs. J. E., Route 1
Hoja, Mrs. W. Alexander, Route 2, Box 16
Kneibert, Mrs. F. L., Barron Rd.
Ladyman, Mrs. George H., 1504 Rosedale
Markel, Mrs. A. D., Jackson Rd.
McLain, Mrs. B. M., Route 2, Hwy. 67 S.
McLane, Mrs. Jerry F., 2107 Jackson Rd.
Miller, Mrs. David V., Hwy. 67 S., Route 5
Moore, Mrs. Dan B., 1406 Woodland
Parker, Mrs. Arthur C., Jr., 708 Selma
Post, Mrs. Cyril A., 960 Cynthia
Raper, Mrs. Charles A., Route 2, Box 17B
Robertson, Mrs. William D., 900 North
Ruff, Mrs. T. Eugene, 1411 Rosedale
Tapp, Mrs. Ernest M., 1401 Lurlyn Rd.
Tenpenny, Mrs. J. W., 804 Oak Hill Rd.
Tuma, Mrs. A. T., 1601 Big Bend Rd.
Turner, Mrs. William F., 1308 Nooney
Ward, Mrs. Robert L., Bluff Estates
White, Mrs. Barry B., 935 Lester

CALLAWAY COUNTY
(Fulton 65251)

Brown, Mrs. John J., 1304 N. Vine
Cremer, Mrs. William J., State Hospital Dr.
Durst, Mrs. Henry, 1 Ivy Lane
Groce, Mrs. George, 1 Bartley Lane
Hill, Mrs. James E., Washington
Jackson, Mrs. Vernon, State Hospital Dr.
Kepler, Mrs. Earl C., 207 Lee
Osbourn, Mrs. Richard A., 503 Douglas Blvd.
Peterson, Mrs. Donald, State Hospital # 1
Ritterbusch, Mrs. James K., 2 Bartley Lane
Sydow, Mrs. Henry, 1014 Chippewa
Tuttle, Mrs. Jay F., 4 Reed
Wood, Mrs. George F., 1700 Plaza Dr.

CAPE GIRARDEAU COUNTY
(Cape Girardeau 63701)

Alyea, Mrs. James, 1869 Drury Lane
Ashley, Mrs. Hugh V., Jr., 1201 Perry
Ashley, Mrs Hugh V., Sr., 425 Franklin
Bahn, Mrs. Charles, 2418 Brookwood
Barnes, Mrs. Seth S., 1854 Broadway
Blankenship, Mrs. Dale, 907 W. Cape Rock Dr.
Burford, Mrs. Edwin K., 2424 Terrie Hill
Campbell, Mrs. Edward, 1100 N. Henderson
Chapman, Mrs. Jean Allen, 1150 N. Henderson
Crowe, Mrs. John, 1000 N. Henderson
Dinkins, Mrs. James, 1714 Westridge
Estes, Mrs. Albert, Hwy. 61
Hall, Mrs. Frank, Sylvan Lane
Herbert, Mrs. Charles, Sylvan Lane
Holcomb, Mrs. John K., 825 N. Fountain
Hoxworth, Mrs. Gerald, 1624 Oxford
Jaeger, Mrs. Joseph, Shady Lane, Jackson 63755
Johnson, Mrs. Earl Wayne, 1044 N. Henderson
Jung, Mrs. Marshall, Illmo 63754
Kasten, Mrs. Melvin C., 1209 Sailor Circle
Keim, Mrs. J. Harry, 643 N. West End Blvd.
Kinder, Mrs. James, 348 N. Park
Kinder, Mrs. Jerry L., 753 Perry Ave.
Kratz, Mrs. Paul, 1720 Cecilia
Lovinggood, Mrs. Thomas, Sylvan Lane
Magaletta, Mrs. George, 957 Rodney Dr.
McDonald, Mrs. Eugene, 225 W. Main, Jackson 63755
McGinty, Mrs. Charles, 2435 Brookwood
Nunnelly, Mrs. Gordon, 1432 Themis
Nussbaum, Mrs. Paul, 209 Sunset Blvd.
Nussbaum, Mrs. Paul S., 1721 Crestwood
Oehler, Mrs. William, 1617 Themis
Otto, Mrs. Thomas, 511 Alta Vista
Parsons, Mrs. Leroy, 2021 Sherwood
Rapp, Mrs. Harold, 1011 N. Henderson
Rawlins, Mrs. Fred, 1607 Bertling
Reynolds, Mrs. Garland, P. O. Box 817
Ridings, Mrs. Harold, 96 E. Cape Rock Dr.
Ritter, Mrs. Raymond, 1257 Rockwood
Seabaugh, Mrs. D. I. L., 922 W. Main St., Jackson 63755
Seabaugh, Mrs. L. R., 811 E. Rodney
Seabaugh, Mrs. William, Route 2, Box 563
Shoss, Mrs. Milton, Route 1
Sparkman, Mrs. Thomas, 1629 Oxford Dr.
Stewart, Mrs. Wendell K., 1935 Briarwood
Talbert, Mrs. Clifford R., 1947 Robin Hood Circle
Terry, Mrs. James W., 2530 Jonquil
Tygett, Mrs. Glenn, 834 Alta Vista
Tygett, Mrs. Joseph, 1877 Oak Hill Dr.
Weeks, Mrs. George, 1814 Scott's Lane
Williams, Mrs. W. A., Jr., 1236 Normal
Wilson, Mrs. Charles, Oak Lei Dr.
Wolff, Mrs. Paul, 90 E. Cape Rock Dr.

CLAY COUNTY
(Kansas City)

Adams, Mrs. Howard, 1472 Hemlock, Liberty 64068
Allen, Mrs. Louis, 5317 West 79th, Shawnee Mission, Kan. 66208
Allen, Mrs. S. Lloyd, 3809 W. 62nd Terr. N. 64151
Armstrong, Mrs. Jay H., 4812 Black Swan Dr., Shawnee Mission, Kan. 66216
Arst, Mrs. Herbert E., 1201 E. 81st, North Kansas City 64118
Balhuizen, Mrs. John, 11 Hill 64116
Bates, Mrs. G. Comer, 102 E. 43rd 64116
Bowles, Mrs. Richard, 414 N. Ridge, Liberty 64068
Burk, Mrs. E. K., 1 E. Briarcliff 64116
Castillo, Mrs. Michael E., 8601 N. Boone 64155
Chastain, Mrs. Maurice W., 3 E. 47th N. 64116
Chiles, Mrs. David R., 405 Maple, Smithville 64089
Devine, Mrs. Mark W., Jr., 7348 Brittany, Apt. 101, Shawnee Mission, Kan. 66203
Edwards, Mrs. Theodore F., 512 N.W. 43rd Terr. 64116
Fakhoury, Mrs. Donald A., 4332 N. Central 64116
Fischer, Mrs. Edward H., 4218 N.W. Briarcliff Lane 64116
Fowler, Mrs. I. Charles, 700 E. Barnes Ave. 64118
Fotopoulos, Mrs. Chris K., Suite 207, 2022 Swift, North Kansas City 64116
Gauer, Mrs. Robert J., 525 N.W. 43rd Terr. 64116
Hall, Mrs. James W., 4606 N. Cleveland 64117
Hayes, Mrs. Lawrence L., 440 N. Woodland Dr. 64118
Hedges, Mrs. Richard C., 530 Elms Blvd., Excelsior Springs 64024
Hendren, Mrs. Glen W., 516 W. Franklin, Liberty 64068
Hendren, Mrs. Thomas H., 62 Bullard Loop, Fort Leavenworth, Kan. 66027
Hobbs, Mrs. Earl B., Smithville 64089
Hodge, Mrs. Robert H., 2214 E. 39th St., North Kansas City 64116
Kimball, Mrs. I. W., 6600 Tower Dr. N. W. 64151
King, Mrs. Phillip, 222 Nashua Rd, Liberty 64068
Knox, Mrs. Earl R., 115 E. 43rd St. North 64116
Kuenzi, Mrs. Donald E., 924 S. Woodland Dr. 64118
Langhus, Mrs. Melvin D., 104 W. Englewood Rd. 64118
Lindquist, Mrs. Paul A., 4925 N. Askew 64119
McCormick, Mrs. James E. 309 Northcrest Dr. 64116
McCracken, Mrs. S. R., 810 Old Orchard, Excelsior Springs 64024
McPhee, Mrs. William R., 1205 W. 76th 64114
Mullins, Mrs. B. L., Route 29 64155
Musgrave, Mrs. David E., 420 N. Kimball, Excelsior Springs 64024
Parker, Mrs. Robert H., 112 E. 43rd North 64116
Perry, Mrs. Lawrence L., Jr., 6300 N. Lenox 64151
Pileggi, Mrs. Felix A., 424 N.W. Briarcliff Rd. 64116
Revare, Mrs. Paul, 3245 Chippewa Dr. 64116
Roberts, Mrs. L. Marvin, 3709 North Briarcliff Rd. 64116
Robinson, Mrs. Van M., 415 Briarcliff Ct. 64116
Schertz, Mrs. Truman B., 428 N.W. Briarcliff Rd. 64116
Slaughter, Mrs. Carl, 6913 N. Birch Lane 64151
Spelman, Mrs. Arch E., Bridge St., Smithville 64089
Sportsman, Mrs. Weldon L., 6309 N. Grand 64118
Stratman, Mrs. Clarence A., 1500 N. E. 57th Terr. 64118
Wald, Mrs. Donald M., 1608 E. 69th St. North Gladstone 64118
Waterman, Mrs. Franklin M., 420 Glendale Rd., Liberty 64068
Werner, Mrs. Dean F., 4609 N. Main 64116
Werner, Mrs. Franklin C., 422 Sagamore La. 64116
Williams, Mrs. John M., 616 Ridgeway Dr., Liberty 64068
Williams, Mrs. R. D., 506 Liberty Rd., Smithville 64089
Withrow, Mrs. John B., 3925 N. Main 64116

COLE COUNTY
(Jefferson City 65101)

Bregant, Mrs. Robert, 1017 Laurel
Cooper, Mrs. Charles Winston, 810 Jackson
Cox, Mrs. William A., 206 Swift's Highway
Dorris, Mrs. Richard P., 410 Ridgewood
Doyle, Mrs. Matthew J., 2311 Livingston
Enloe, Mrs. L. David, 1200 Moreland
Exon, Mrs. C. Stuart, Boonville Rd.
Fullgrabe, Mrs. Emil A., 1602 Taylor
Garner, Mrs. Lynn M., 403 Meier Dr.
Gentry, Mrs. Merritt Logan, 405 Norris Dr.
Gordon, Mrs. James, 600 Boonville Rd.
Gove, Mrs. Herman S., 712 Broadway
Guhleman, Mrs. Henry V., Jr., 1710 Greenberry Rd.
Gurnee, Mrs. Landon H., 121 Westmore
Handler, Mrs. Fred P., 614 Boonville Rd.
Kanagawa, Mrs. Harold Hajime, 734 Houchin
Kelly, Mrs. Marshall W., 1610 Greenberry Rd.
Klebba, Mrs. Larry B., Country Club Rd.
Lauderdale, Mrs. William H., 1807 Allen Dr.
Leslie, Mrs. J. Paul, 933 Fairmount
Leslie, Mrs. James T., Jr., 1552 Brookside Blvd.
Loyd, Mrs. Earl L., 114 Binder Dr.
Matthews, Mrs. John I., 1310 Moreau Dr.
McHaney, Mrs. John W., Country Club Dr.
McKnelly, Mrs. Willian V., 1204 Lee
Meier, Mrs. Francis X., 1913 Hayselton Dr.
Meinershagen, Mrs. Charles W., 138 Forest Hill
Melia, Mrs. Bernard, 1507 Moreland
Ossman, Mrs. Julian A., 2505 W. Main
Ringo, Mrs. Henry, Centertown 65023
Robb, Mrs. Harold P., 1117 Leslie Blvd.
Russell, Mrs. Joseph P., 1517 Greenberry Rd.
Ryan, Mrs. Thomas J., 1109 Moreau Dr.
Sanders, Mrs. Jack Shelby, 1546 Brookside
Schmidt, Mrs. Jerome H., Boonville Rd.
Scott, Mrs. David, 803 Mohawk

Sennott, Mrs. John Stephen, 102 Douglas Dr.
Shull, Mrs. G. Donald, 1925 Hayselton Dr.
Stauffer, Mrs. Harry Beach, 800 Boonville Rd.
Stricker, Mrs. Harold C., 1205 Moreau Dr.
Sugarbaker, Mrs. Everett D., 2113 W. Main
Summers, Mrs. Joseph S., Jr., 2313 W. Main
Tanner, Mrs. Robert H., 1606 Greenberry Rd.
Taylor, Mrs. Leon A., 1104 W. Main
Tietjen, Mrs. Fred C., 7 Greentree Rd.
Watts, Mrs. Byron Edward, 2112 Forest Dr.
Winegar, Mrs. Alvon C., 222 Swift's Highway

COOPER COUNTY
(Boonville 65233)

Abele, Mrs. William Arved, Krohn Dr.
Avery, Mrs. Willard Bartlett, 20 Crestview
Beckett, Mrs. Theodore Cooper, 725 4th St.
Diekroeger, Mrs. Manuel Louis, Route 2
Draper, Mrs. Bernard Lee, 8 Boler Dr.
Hata, Mrs. Daikichi, 7 Morningside Dr.
Humphreys, Mrs. Edward Tristran, 1123 3rd St.
Stuart, Mrs. Byron McClellan, 910 Shamrock Terr.
Winn, Mrs. George Warren, 607 Poplar St.
Zeigler, Mrs. William Henry, Weyland Dr.

DUNKLIN COUNTY
(Kennett 63857)

Baldwin, Mrs. Paul, 200 W. Washington
Benson, Mrs. Leo J. J., 204 Wiggs
Cash, Mrs. Charles R., 800 College
Croom, Mrs. D. W., 403 Stokes Blvd., Malden 63863
Dunmire, Mrs. George Q., 504 S. Baker Dr.
English, Mrs. W. D., Cardwell 63829
Hunt, Mrs. John L., 802 Monroe Ave., Campbell 63933
Legan, Mrs. John K., Kennett 63857
Miltenberger, Mrs. Paul C., 705 W. Washington
Morehead, Mrs. William Edward, Malden 63863
Palenske, Mrs. R. L., Box 57, Hornersville 63855
Peck, Mrs. C. R., 234 S. Main
Tarver, Mrs. Quinton, 1004 W. Washington
Zimmerman, Mrs. Joe A., 1105 Whiteoak Pl.

FRANKLIN-GASCONADE-WARREN COUNTIES

Baker, Mrs. Donald L., Porter Ford Rd., Union 63084
Bonney, Mrs. Sam, Washington 63090
Bozzo, Mrs. Raymond J., 1235 W. Main, Washington 63090
Brenner, Mrs. Paul A., 108 W. Washington Ave., Owensville 65066
Eisenmann, Mrs. Benjamin B., New Haven 63068
Evermann, Mrs. Walter, Warrenton 63383
Farrell, Mrs. S. L., 205 Elm, Washington 63090
Hoelscher, Mrs. H. F., Hickory Haven, Warrenton 63383
Mitchell, Mrs. Thomas J., 501 Highway Dr., St. Clair 63077
Moellenhoff, Mrs. Robert, 2315 E. 5th, Washington 63090
Muench, Mrs. Ludwig O., 1530 Riverview Dr., Washington 63090
Richardson, Mrs. G. A., Union 63084
Richardson, Mrs. W. R., 301 Hwy. 50 West, Union 63084
Ryan, Mrs. J. B., Cedar St., Washington 63090
Schmidt, Mrs. Charles, Box 143, Gerald 63037
Strehlman, Mrs. B. G., 510 West End Ave., Union 63084

GRAND RIVER COUNTIES
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Mrs. E. W., 1202 N. Jefferson, Carrollton 64633
Atcheson, Mrs. Windsor, 108 Kavanaugh, Trenton 64683
Bales, Mrs. Eugene, 502 W. 3rd Terr., Carrollton 64633
Bohnsack, Mrs. Ralph, 635 Skyline Dr., Brookfield 64628
Clark, Mrs. Chester, 13 Town & Country, Trenton 64683
Conrad, Mrs. Joseph, 1202 Jackson, Chillicothe 64601
Cross, Mrs. Albert, 902 W. 17th, Trenton 64683
Daley, Mrs. Frank, 508 E. Sammuel, Hamilton 64644
Dixon, Mrs. John, 1905 Brookfield, Brookfield 64628
Dowell, Mrs. Donald, 1830 Calhoun, Chillicothe 64601
Ellsworth, Mrs. Willard, Cainsville 64632
Fair, Mrs. William, 1705 Calhoun, Chillicothe 64601
Fuson, Mrs. William, 520 Pleasant View, Trenton 64683
Gale, Mrs. Joseph, 1710 Polk, Chillicothe 64601
Gary, Mrs. George, 112 W. Houser, Marceline 64658
Gearhart, Mrs. Merriam, 2100 Beekman, Bethany 64424
Howell, Mrs. Billy, 157 Hunt, Brookfield 64628
Mandler, Mrs. George, 1616 Clay, Chillicothe 64601
Platz, Mrs. John, 804 N. Main, Carrollton 64633
Smith, Mrs. Robert, 509 E. Houser, Marceline 64658
Sweiger, Mrs. James, Maysville 64469
Todd, Mrs. Paul, 218 W. Chicago, Marceline 64658
Vandiver, Mrs. V. D., 1836 Polk, Chillicothe 64601
Vinyard, Mrs. Jack, RFD, Carrollton 64633

GREENE COUNTY
(Springfield)

Allen, Mrs. Jerry H., 1324 S. Fairway Terr. 65804
Anthony, Mrs. Dallas D., 1322 S. Pickwick 65804
Ash, Mrs. Kenneth H., 2401 Ingram Mill Rd. 65804
Ash, Mrs. Charles J., 743 Riverside 65804
Ashley, Mrs. Thomas E., 2740 Pythian 65802
Atkinson, Mrs. Thomas E., Route 9, Box 81A 65804
Auner, Mrs. Cecil R., 649 McCann 65804
Bailey, Mrs. Alan, 2242 Barataria 65804
Baldwin, Mrs. Richard M., 2033 Prairie Lane 65804
Bareis, Mrs. Robert, 408 N. Locust, Marshfield 65706
Blades, Mrs. Ross, 2845 E. University 65804
Bonebrake, Mrs. McDonald D., 1443 S. Delaware 65804
Broaddus, Mrs. Loren, 2017 So. Link 65804
Brown, Mrs. Lyman, 1410 N. Rogers 65802
Burkey, Mrs. Jordon W., 2405 Sheridan 65804
Busiek, Mrs. Urban J., 1635 E. Walnut 65802
Callaway, Mrs. Guy, Jr., 901 E. Portland 65804
Callaway, Mrs. Guy D., 1155 S. Delaware 65804
Cheek, Mrs. Anne C., 1535 E. Meadowmere 65804
Christy, Mrs. Raymond A., 2738 S. Marlan 65804
Ciccone, Mrs. Pasquale, U. S. Medical Center 65801
Clarke, Mrs. Michael J., 2416 Brentwood 65804
Clary, Mrs. Wm. W., 2259 Mirabeau 65804
Clayton, Mrs. Edgar L., 2446 Brentwood 65804
Cochran, Mrs. Thomas E., 2423 Brentwood 65804
Coller, Mrs. Frederick B., 2433 Marlan 65804
Cook, Mrs. James R., 850 S. Cavalier 65804
Cordonnier, Mrs. James K., 1920 E. Greenwood 65804
Cox, Miss Eleanor, 1072 Roanoke 65804
Crawford, Mrs. Oral B., Route 1, Box 443 65803
Dietz, Mrs. M. Wendell, 2540 Edgewater 65804
Dillard, Mrs. Erin M., 2530 S. Marlan 65804
Duncan, Mrs. Robert D., 1234 E. Loren 65804
Eastwood, Mrs. Robert A., 3043 Wilshire 65804
Elkins, Mrs. Ronald F., 2830 E. Glenwood 65804
Ellis, Mrs. Francis J., 2235 E. Glenwood
Farthing, Mrs. F. R., 1234 E. Walnut 65802
Farthing, Mrs. Gene W., 1235 E. Walnut 65802
Ferguson, Mrs. John P., 1219 S. Clay 65804
Ferguson, Mrs. J. Lynn, 1840 S. Weller 65804
Ferguson, Mrs. Mary V., 1219 S. Clay 65804
Fessenden, Mrs. Ersel M., 634 E. Kingsbury 65804
Fitch, Mrs. Max, 2523 S. Marlan 65804
Francis, Mrs. William C., 2820 E. Glenwood 65804
Freeman, Mrs. S. F., 1339 S. Pickwick 65804
German, Mrs. Walter A., Jr., 2659 Luster 65804
Giddings, Mrs. Frank C., 1211 S. Pickwick 65804
Glynn, Mrs. Robert R., 1101 Benton 65802
Gorelick, Mrs. David F., 1041 Linwood Terr. 65804
Gose, Mrs. Don F., 1339 S. Delaware 65804
Griot, Mrs. Mary J., 1640 E. Sunshine 65804
Hall, Mrs. David W., 2122 Wayland Dr. 65804
Hall, Mrs. Durward G., 2442 S. Fremont 65804
Hanan, Mrs. Ernest B., 724 E. Kingsbury 65804
Harvey, Mrs. Harold D., 2531 Brentwood 65804
H'Doubler, Mrs. Alice, Route 7, Box 207 65802
H'Doubler, Mrs. Charles E., 1421 Bedford Rd. 65804
H'Doubler, Mrs. F. T., Jr., 2336 E. Glenwood 65804
H'Doubler, Mrs. Peter B., 1137 S. Pickwick 65804
Holland, Mrs. Robert D., 2623 Luster 65804
Hollis, Mrs. Richard, 2236 Englewood Rd. 65801
Holmes, Mrs. Daniel E., 2115 S. Cedarbrook 65804
Holmes, Mrs. David R., 2237 E. Rosebrier 65804
Horton, Mrs. James D., 1235 E. Delmar 65804
Hulstra, Mrs. Han F. W., 2652 S. Luster 65804
Ivy, Mrs. H. Berry, 215 E. Sunshine 65804
Johnson, Mrs. Warford B., 2244 Edgewood 65804
Johnson, Mrs. William F., 973 E. Linwood 65804
Johnston, Mrs. Joseph L., 2855 Southern Hills 65804
Jones, Mrs. Harold L., 2641 McCann 65804
Key, Mrs. James S., 2278 Englewood 65801
Klingner, Mrs. George M., Turners 65765
Klingner, Mrs. T. O., 1529 E. Elm 65804
Knabb, Mrs. Kenneth E., 1229 E. Catalpa 65804
Langston, Mrs. W. Roland, 1453 S. Fairway 65804
Lemmon, Mrs. G. Bruce, 1462 Virginia 65804
Lewis, Mrs. Noel Rex, Route 9, Box 288 65804
Litton, Mrs. Lyle D., 3044 Shalimar 65804
Lorenc, Mrs. Ernest, 2819 Canyon Dr. 65804
Lowe, Mrs. H. A., Jr., 1700 E. Walnut 65802
Lurie, Mrs. Harold H., 2440 Skyline Dr. 65804
Maple, Mrs. Francis M., 2115 E. Edgewood 65804
Maples, Mrs. Ruth, 836 E. Eastwood, Marshall 65340
McAlhany, Mrs. Howard J., 1643 E. Catalpa 65804
McKinsey, Mrs. John J., 2504 S. Franklin 65804
Menchetti, Mrs. Don E., 2049 Roanoke 65804
Moore, Mrs. De A., U. S. Medical Center 65802
Moseley, Mrs. F. Thomas, 2837 Lomita Circle 65804
Napper, Mrs. Marvin L., Route 1, Ash Grove 65604
Overend, Mrs. Don S., 2218 Mirabeau 65804
Palcheff, Mrs. Chris L., Route 9, Box 400L 65801

Park, Mrs. William I., 815 E. Portland 65804
Parlato, Mrs. George, 2204 Shady Glen 65804
Penninger, Mrs. William H., 2246 Claiborne 65804
Peterson, Mrs. Stanley S., 721 E. Stanford 65804
Pipkin, Mrs. Anna, 924 N. Main 65802
Prater, Mrs. Bill George, 3000 Carlisle Cir. 65804
Pruett, Mrs. Paul L., 1036 E. Sunshine 65804
Quinn, Mrs. Paul, 1936 E. Greenwood 65804
Rosen, Mrs. Max, 900 E. Walnut 65806
Sala, Mrs. Jose M., 2848 La Monta Dr. 65804
Schroff, Mrs. Carle H., 2448 E. Broadmoor 65804
Schwartz, Mrs. Eugene J., 1315 E. Loren 65804
Schweitzer, Mrs. Fred C., 2550 Luster 65804
Shackter, Mrs. Bruce I., 1938 Saratoga 65804
Siceluff, Mrs. Joseph G., Route 9, Box 84M 65804
Silsby, Mrs. Don J., 932 S. Pickwick 65804
Silsby, Mrs. Harry D., 1369 S. Fairway 65804
Simpson, Mrs. Albert P., 2202 Barataria 65804
Simpson, Mrs. E. L., 2133 Meadowview 65804
Snead, Mrs. William H., 2532 Sheridan 65804
Spalding, Mrs. David, 2119 S. Hills Blvd. 65804
Stewart, Mrs. Robert B., 2360 E. Grand 65804
Stufflebam, Mrs. Robert E., 2323 E. Rosebrier 65804
Sturtevant, Mrs. Harwood N., 2859 Utica 65804
Tarrasch, Mrs. Ernest, 2114 Langston 65804
Terry, Mrs. James F., Jr., 2471 Sheridan 65804
Thomasson, Mrs. David D., 2311 E. Glenwood 65804
Tillman, Mrs. Walter W., 1220 E. Loren 65804
Tombridge, Mrs. T. L., 2019 Holly Circle 65801
Trotter, Mrs. W. Yates, 1243 E. Catalpa 65804
Turner, Mrs. Glenn O., 1462 S. Dollison 65804
Vensel, Mrs. Lee H., Jr., 2255 Meadowview 65804
Waddell, Mrs. Kenneth, 1126 S. Kentwood 65804
Wakeman, Mrs. J. Newton, 1402 Meadowmere 65804
Walker, Mrs. William M., 2845 S. Hills Blvd. 65804
Warres, Mrs. Herbert L., 2614 Englewood Rd. 65801
Webb, Mrs. Richard, 1243 E. Loren 65804
White, Mrs. R. Ned, Route 9, Box 600 65804
Williams, Mrs. John W., 2245 Fritts La. 65804
Wilson, Mrs. Roy E., 2160 Barataria 65804
Wittmer, Mrs. Samuel C., 2314 E. Washita 65804
Wong, Mrs. George, Jr., 2908 E. Avalon 65804
Wood, Mrs. William W., Route 2, Box 101 65804
Wooldridge, Mrs. Wilfred E., 1126 E. Stanford 65804
Yancey, Mrs. Daniel L., 1133 S. Weller 65804
Zahn, Mrs. Robert, 1528 S. Fairway 65804

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Adelman, Mrs. Arthur, 333 W. Meyer Blvd. 64113
Agee, Mrs. Loren Glenn, 2001 Stratford Rd. Shawnee Mission, Kan. 66208
Aks, Mrs. Daniel, 6009 W. 99th, Shawnee Mission, Kan. 66207
Alderman, Mrs. Thomas F., 106 E. 127th 64145
Allebach, Mrs. Hobart K. B., 4308 W. 93rd, Shawnee Mission, Kan. 66207
Allen, Mrs. Charles H., 616 W. Maple, Independence 64050
Allen, Mrs. William Bayne, 2801 W. 63rd, Shawnee Mission, Kan. 66208
Alsop, Mrs. Webb S., Jr., 3604 W. 53rd, Shawnee Mission, Kan. 66205
Altomare, Mrs. Edward P., 1030 W. 65th St. 64113
Altringer, Mrs. Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ammatelli, Mrs. F. J., 1235 W. 57th 64113
Anderson, Mrs. Raymond B., 6024 State Line, Shawnee Mission, Kan. 66208
Anderson, Mrs. Richard W., 1001 Romany Rd. 64113
Andrus, Mrs. Bailey C., 6508 Overbrook Rd., Shawnee Mission, Kan. 66208
Arms, Mrs. Arnold V., 6421 High Dr., Shawnee Mission, Kan. 66208
Aschmann, Mrs. T. H., 8740 Brooklyn 64130
Asher, Mrs. A. Graham, 5410 State Line Rd., Shawnee Mission, Kan. 66208
Atcheson, Mrs. Bellfield, 6524 Overhill Rd, Shawnee Mission, Kan. 66208
Atwell, Mrs. Floyd C., 630 W. 60th Terr. 64113
Averill, Mrs. Keith H., 9616 Riggs, Overland Park, Kan. 66204
Bachman, Mrs. Paul L., 1206 W. Truman Rd., Independence 64050
Baer, Mrs. Alvin J., 5800 Howe Dr., Shawnee Mission, Kan. 66205
Baker, Mrs. Philip J., 11440 E. 47th St. 64133
Ballard, Mrs. V. Bryce, 6618 Rainbow, Shawnee Mission, Kan. 66208
Bare, Mrs. Chester I., 10501 E. 78th Terr. 64133
Barelli, Mrs. Pat A., 5609 Mission Dr., Shawnee Mission, Kan. 66208
Barloon, Mrs. James H., 612 E. 66th 64131
Barnard, Mrs. John L., 825 W. 52nd 64112
Barnett, Mrs. Gordon P., 6568 High Dr., Shawnee Mission, Kan. 66208
Barry, Mrs. John W., 5510 W. 84th, Overland Park, Kan. 66204
Barry, Mrs. William B., 4600 Nichols Parkway 64112
Basantz, Mrs. Fernando V., 3418 W. 77th Terr., Shawnee Mission, Kan. 66208
Bass, Mrs. Walter R., 7202 Manchester Ave. 64133
Bay, Mrs. Merrill R., Woods Chapel Rd., Blue Springs 64015
Beck, Mrs. Calvin E., 6432 High Dr., Shawnee Mission, Kan. 66208
Becker, Mrs. Rolfe A., 6501 Wenonga Rd., Shawnee Mission, Kan. 66208
Bell, Mrs. William F., 307 Lakeview, Lee's Summit 64063
Bennett, Mrs. J. D., 3216 W. 69th, Shawnee Mission, Kan. 66208
Benoit, Mrs. Hector W., Jr., 2501 W. 64th Shawnee Mission, Kan. 66208
Berenson, Mrs. Sheldon E., 832 W. 63rd 64113
Bernreiter, Mrs. Michael, 1246 W. 63rd 64113
Berry, Mrs. G. Neill, 5650 High Dr., Shawnee Mission, Kan. 66208
Berry, Mrs. Maxwell G., 5020 Summit 64112
Biggs, Mrs. Alfred D., Jr., 6551 Wenonga Terr., Shawnee Mission, Kan. 66208
Bikales, Mrs. Victor W., 5810 High Dr., Prairie Village, Kan. 66208
Bills, Mrs. Marvin L., 3309 W. 68th, Shawnee Mission, Kan. 66208
Black, Mrs. Eugene C., 3201 W. 67th, Shawnee Mission, Kan. 66208
Blim, Mrs. Richard Don, 2209 W. 68th, Shawnee Mission, Kan. 66208
Bohan, Mrs. Peter T., 4545 Wornall Rd. 64111
Bordy, Mrs. Marvin D., 1911 Romany Rd., Shawnee Mission, Kan. 66208
Borenstine, Mrs. Joseph, 7307 Holmes 64131
Botwin, Mrs. Arnold E., 6010 Cherokee Dr., Shawnee Mission, Kan. 66205
Bourke, Mrs. Timothy S., 601 E. Meyer Blvd. 64131
Bowser, Mrs. John F., 3701 Madison 64111
Boylan, Mrs. Peter C., 6121 W. 90th Terr., Shawnee Mission, Kan. 66207
Brams, Mrs. Jack B., 5050 Oak 64112
Braverman, Mrs. Abe Elliott, 2701 W. 68th, Shawnee Mission, Kan. 66208
Bridgens, Mrs. James G., 1025 Huntington Rd. 64113
Brown, Mrs. Adrian J., 12 E. 63rd 64113
Brown, Mrs. Menzie H., 7621 Colonial Dr., Prairie Village, Kan. 66208
Brown, Mrs. William R., 8124 Lee Blvd., Shawnee Mission, Kan. 66206
Brumm, Mrs. L. W., 7421 Wyoming 64114
Brust, Mrs. Carl H., 6114 Howe Dr., Shawnee Mission, Kan. 66205
Buckner, Mrs. Robert C., 3507 W. 87th, Leawood, Kan. 66206
Budke, Mrs. Harold A., 1219 W. 66th Terr. 64113
Buhler, Mrs. Victor B., 5212 Bellview 64112
Bunting, Mrs. Williston P., 1231 W. 62nd 64113
Burch, Mrs. Buford H., 3734 Locust, Notre Dame Place, Apt. 27
Burry, Mrs. V. Fred, 5213 Scranton Dr. 64133
Butcher, Mrs. Robert W., 1101 W. 86th Terr. 64114
Byers, Mrs. Philip, 5832 High Dr., Shawnee Mission, Kan. 66208
Caffrey, Mrs. Raymond J., 1314 W. Red Bridge Rd. 64114
Caldwell, Mrs. John K., 436 E. 65th Terr. 64131
Campbell, Mrs. Frederick B., 1032 W. 55th 64113
Capps, Mrs. Eugene C., 6420 High Dr., Shawnee Mission, Kan. 66208
Carlson, Mrs. Hjalmar E., 2025 W. 48th Terr., Shawnee Mission, Kan. 66205
Carmichael, Mrs. Francis A., 5841 High Dr., Shawnee Mission, Kan. 66208
Casady, Mrs. Gilbert N., 9830 Aberdeen Dr., Shawnee Mission, Kan. 66206
Case, Mrs. William F., 3109 W. 72nd, Shawnee Mission, Kan. 66208
Chambers, Mrs. James Q., Jr., 5500 Belinder Ave., Shawnee Mission, Kan. 66205
Chambers, Mrs. James Q., Sr., 3701 Broadway 64111
Childs, Mrs. Richard M., 5325 Mission Woods Terr., Shawnee Mission, Kan. 66205
Clark, Mrs. Irving H., 2811 Blue Ridge Ext., Grandview 64030
Cochrane, Mrs. Joseph J., 3301 W. 68th, Shawnee Mission, Kan. 66208
Cockerell, Mrs. Sanford F., 3501 S. Crysler, Independence 64050
Coffey, Mrs. Ralph R., 5211 Wornall Rd. 64112
Cohen, Mrs. Harry K., 417 W. 70th 64113
Colom, Mrs. George A., 4002 W. 56th Shawnee Mission, Kan. 66205
Connell, Mrs. Evan S., 837 W. 58th Terr. 64112
Cox, Mrs. Kenneth E., 5640 Pembroke La., Prairie Village, Kan. 66208
Cox, Mrs. William L., 1465 Spruce Ave., Liberty 64068
Crockett, Mrs. James, 5400 W. 83rd St., Prairie Village, Kan. 66208
Cross, Mrs. Walter M., 310 W. 49th St. 64112
Culbertson, Mrs. William F., 1253 Huntington Rd. 64113
Curiel, Mrs. Manuel S., 1272 W. 72nd 64114
Curran, Mrs. Desmond, 6626 Wenonga Terr., Prairie Village, Kan. 66208
Curts, Mrs. Calvin J., 808 W. 67th Terr. 64113
Davidson, Mrs. Ken C., 9700 Wenonga Rd., Leawood, Kan. 66206
Davis, Mrs. Herbert V., 4601 Holmes 64110
Davis, Mrs. Jack M., 7110 Harecliff Dr. 64133
Davis, Mrs. Richard E., 2300 Drury Lane, Shawnee Mission, Kan. 66208
Davis, Mrs. Robert C., 659 W. 61st Terr. 64113
Demott, Mrs. John D., 4402 Homestead Dr., Prairie Village, Kan. 66208
Demotte, Mrs. John A., 1247 W. 56th 64113
Dempsey, Mrs. Herbert A., 806 Chestnut, Lee's Summit 64063
Dennie, Mrs. Charles C., 2600 Verona Rd., Shawnee Mission, Kan. 66208
Dixon, Mrs. V. L., 2501 W. Paseo 64108
Dlabal, Mrs. L. J., 3729 Blue Ridge Blvd., Independence 64052
Doane, Mrs. William L., 1102 130th St., Grandview 64030
Dodge, Mrs. Mark, 5820 State Line Rd., Shawnee Mission, Kan. 66208

Dolezal, Mrs. Joseph B., 7928 Outlook, Prairie Village, Kan. 66208
Dorsch, Mrs. E. H., 3807 Woodland, Independence 64052
Downey, Mrs. James W., 6218 W. 64th Terr., Shawnee Mission, Kan. 66202
Drake, Mrs. Roy F., 6600 Outlook, Shawnee Mission, Kan. 66202
Drisko, Mrs. Robert M., 2100 Stratford Rd., Shawnee Mission, Kan. 66208
Duncan, Mrs. Wm. H., Jr., 808 W. 69th 64113
Durnell, Mrs. Monaford D., 308 Lincolnwood Dr., Lee's Summit 64063
Edmonds, Mrs. D. D., 9009 Mission Rd., Leawood, Kan. 66206
Eiseman, Mrs. Gustave, 7908 Campbell 64131
Elias, Mrs. David J., 10311 Sheley Rd., Independence 64052
Elliott, Mrs. R. Glen, 6136 Reinhardt Dr., Shawnee Mission, Kan. 66205
Elser, Mrs. Otto H., 604 Rankin Rd., Independence 64050
Engelking, Mrs. David F., 6504 Claremont, Raytown 64133
Engelmann, Mrs. Calvin E., 4916 W. 57th Terr., Shawnee Mission, Kan. 66205
Eshelman, Mrs. A. D., 12116 E. 46th 64133
Etzenhouser, Mrs. Merrill, 1215 W. 35th Terr., Independence 64050
Etzenhouser, Mrs. Russell D., 1317 W. College, Independence 64050
Eubank, Mrs. Dillard M., 6020 Elm 64133
Eubank, Mrs. Will R., 6113 Lane 64133
Eubank, Mrs. William Y., 1020 W. 60th Terr. 64113
Evans, Mrs. Lawrence, 4513 Washington 64111
Farley, Mrs. Claude C., 3312 W. 87th, Leawood, Kan. 66206
Farney, Mrs. Jacob P., 2721 W. 69th St., Shawnee Mission, Kan. 66208
Farnsworth, Mrs. Jesse J., 5608 Fairway, Shawnee Mission, Kan. 66205
Feierabend, Mrs. Frank L., 7345 Wyoming 64114
Ferguson, Mrs. Eugene H., 333 W. Meyer Blvd., Apt. 504 64113
Ferguson, Mrs. James T., 718 E. Armour 64109
Ferris, Mrs. Carl R., 629 W. 70th Terr. 64113
Finkle, Mrs. Robert H., 3010 Sterling, Independence 64052
Fitzgerald, Mrs. Robert H., 2700 W. 69th St., Shawnee Mission, Kan. 66208
Flanders, Mrs. Horace F., 3820 W. 65th Terr., Shawnee Mission, Kan. 66208
Flanders, Mrs. Virgil, 2022 W. 91st, Leawood, Kan. 66206
Flynn, Mrs. James F., 5720 High Dr., Shawnee Mission, Kan. 66208
Folck, Mrs. William P., 5804 Linden Rd., N.W., Parkville 64151
Forman, Mrs. Louis H., 2801 W. 67th, Shawnee Mission, Kan. 66208
Forsythe, Mrs. Robert W., 6457 Verona Rd., Shawnee Mission, Kan. 66208
Foster, Mrs. Hal, 5050 Oak, Apt. 1028 64112
Fouts, Mrs. Dallas, Sr., 13101 E. 43rd St., Independence 64050
Fowler, Mrs. Fred D., 1231 W. 56th 64110
Fowler, Mrs. James, 200 W. 53rd Terr. 64112
Fredeen, Mrs. Robert C., 5437 Canterbury Rd., Shawnee Mission, Kan. 66205
Frick, Mrs. J. Paul, 116 Huntington Rd. 64113
Friedman, Mrs. Morris L., 2516 W. 69th, Shawnee Mission, Kan. 66208
Fritzlen, Mrs. Thomas J., 825 W. 63rd 64113
Fuhrman, Mrs. Donald L., 3417 W. 68th, Prairie Village, Kan. 66208
Fulton, Mrs. Albert E., 9501 Madison Ave. 64114
Fury, Mrs. Tex E., 642 Huntington Rd. 64113
Gainey, Mrs. Harold L., 4907 Sunset Dr. 64112
Ganley, Mrs. Wm. Coyle, 8400 Overhill Dr. 64138
Gard, Mrs. Raymond F., 11530 Winner Rd., Independence 64052
Garrison, Mrs. Roy R., 404 W. 67th Terr. 64113
Geha, Mrs. Braham J., 5411 W. 103rd Terr., Overland Park, Kan. 66207
Geiger, Mrs. W. A., Jr., 3506 W. 92nd Terr., Leawood, Kan. 66206
Gibson, Mrs. David M., 5318 Sunset Dr. 64112
Gilkey, Mrs. Harry M., 4941 Westwood Rd. 64112
Gillen, Mrs. Billy A., 6500 Maple Dr., Mission, Kan. 66222
Gillmor, Mrs. C. Stewart, 420 E. Armour 64109
Ginardi, Mrs. Donald E., 4615 Gennessee 64112
Ginsberg, Mrs. Norman A., 1220 W. 67th 64113
Gist, Mrs. W. W., 1208 W. 59th 64113
Goldsich, Mrs. Edward, 5115 W. 81st, Prairie Village, Kan. 66208
Goldman, Mrs. Stanley, 5734 Windsor Dr., Shawnee Mission, Kan. 66205
Goldstein, Mrs. Marvin F., 400 E. 91st 64131
Goodson, Mrs. W. H., Jr., 815 W. 59th 64113
Gottsch, Mrs. Joseph C., 7904 Granada, Prairie Village, Kan. 66208
Grakske, Mrs. Charles F., 14203 Kentucky Rd., Independence 64050
Graham, Mrs. Wallace H., 5157 Ward Pkwy. 64112
Green, Mrs. John R., 3424 Norton, Independence 64052
Green, Mrs. John Richard, 3143 Santa Fe Terr., Independence 64052
Greene, Mrs. W. Wallace, 2008 W. 68th Shawnee Mission, Kan. 66208
Growdon, Mrs. John A., 1207 Stratford Rd. 64113
Guastello, Mrs. M. J., 4124 W. 95th, Apt. 110, Shawnee Mission, Kan. 66207
Gullett, Mrs. Charles C., 8815 W. 72nd Terr., Shawnee Mission, Kan. 66204
Gundle, Mrs. Sigmund, 5926 Windsor Dr., Shawnee Mission, Kan. 66205
Habib, Mrs. Henry N., 440 E. 74th Terr. 64131
Hager, Mrs. David, 7523 Hawthorne, Raytown 64138
Haight, Mrs. John M., 5609 Blue Ridge Blvd. 64133
Hall, Mrs. Thomas B., 4550 Warwick Blvd., Apt. 504 64111
Halperin, Mrs. Phillip H., 1011 W. 56th 64113
Hamel, Mrs. Herbert A., 6441 High Dr., Shawnee Mission, Kan. 66208
Hamill, Mrs. Robert W., 6945 Nieman Rd., Shawnee Mission, Kan. 66203
Hardy, Mrs. H. M., 6606 Overhill Rd., Shawnee Mission, Kan. 66208
Harless, Mrs. Morris S., 6844 Cherry 64131
Harrin, Mrs. William R., 119 W. 116th 64114
Hartwig, Mrs. Fred H., 5204 Pawnee Dr., Shawnee Mission, Kan. 66205
Hartwig, Mrs. Raymond W., 3110 Tomahawk, Shawnee Mission, Kan. 66208
Hausheer, Mrs. Herman, 12900 36th Terr., Independence 64050
Haynes, Mrs. Solon E., 5306 Holmes 64110
Heilman, Mrs. Edward J., 6722 Kenwood 64131
Helman, Mrs. Richard G., 6540 Wenonga Rd., Shawnee Mission, Kan. 66208
Herrman, Mrs. George V., 701 Parkway Apts., 4545 Wornall 64111
Hess, Mrs. Paul D., 8423 High Dr., Leawood, Kan. 66206
Hibbard, Mrs. Blaine Z., 5211 Sunset Dr. 64112
Hickerson, Mrs. William H., 4207 S. Crysler, Independence 64050
Hill, Mrs. J. H., 8115 Meadow La., Leawood, Kan. 66206
Hink, Mrs. Fred W., 524 Hardy, Independence 64053
Hoadley, Mrs. William D., 9625 Beverly, Shawnee Mission, Kan. 66212
Hodgson, Mrs. Frank H., 1049 W. 55th 64112
Hoech, Mrs. George P., Jr., 916 Glenhaven Circle, Liberty 64068
Hoeper, Mrs. Samuel D., 13009 12th, Grandview 64030
Hoffman, Mrs. J. S., 5820 Cherokee Dr., Shawnee Mission, Kan. 66205
Hollweg, Mrs. Kenneth C., 808 W. Meyer Blvd. 64113
Holton, Mrs. Edward B., 2817 Westport Rd., Independence 64052
Hook, Mrs. Waller G., 10010 Elmonte, Shawnee Mission, Kan. 66207
Hungate, Mrs. Carroll P., 6845 Oak 64113
Hunt, Mrs. Claude J., 615 W. 65th 64113
Hunt, Mrs. Thomas R., 5804 El Monte Dr., Shawnee Mission, Kan. 66205
Hunter, Mrs. Martin P., 4100 W. 93rd, Shawnee Mission, Kan. 66207
Hunzicker, Mrs. Warren J., 1248 Stratford Rd. 64113
Ingham, Mrs. Walton C., 9723 Overbrook Rd., Leawood, Kan. 66206
Irvine, Mrs. John, 2500 Red Bridge Terr. 64131
Irwig, Mrs. Fred, 5109 W. 87th, Shawnee Mission, Kan. 66207
Jacob, Mrs. Walter P., 5301 W. 83rd. Terr., Prairie Village, Kan. 66208
Jacobs, Mrs. Morton, 6414 Verona Rd., Prairie Village, Kan. 66208
Jacobs, Mrs. Walter Harvey, 66656 Milhaven Dr., Shawnee Mission, Kan. 66202
James, Mrs. Otis E., Jr., 2810 W. 68th, Shawnee Mission, Kan. 66208
Jansen, Mrs. Robert, 440 E. 66th 64131
Jarvis, Mrs. James A., 600 W. 57th St. 64113
Jenab, Mrs. Morteza, Route 2, Box 171, Blue Springs 64015
Johnson, Mrs. Dallas A., 4111 W. 73rd Terr., Prairie Village, Kan. 66208
Johnson, Mrs. Joseph, 707 Montcrew Dr. 64114
Johnstone, Mrs. Paul N., 117 W. 69th Terr. 64113
Jonas, Mrs. Harry S., 11711 Markham Rd., Independence 64025
Jones, Mrs. Gale O., 6503 Summit 64113
Jones, Mrs. T. Reid, 5927 Lockton La., Shawnee Mission, Kan. 66205
Jones, Mrs. Samuel T., 9915 Cherokee Lane, Shawnee Mission, Kan. 66207
Justus, Mrs. John B., 5221 Howe Dr., Shawnee Mission, Kan. 66205
Kanarek, Mrs. Joseph, 6112 W. 87th Terr., Leawood, Kan. 66206
Kandt, Mrs. Ray E., Jr., 7530 W. 79th, Overland Park, Kan.
Kantor, Mrs. Julius M., 6708 High Dr., Shawnee Mission, Kan. 66208
Kantor, Mrs. Samuel, 3604 W. 87th, Leawood, Kan. 66206
Kaul, Mrs. Philip G., 5310 Mission Woods Rd., Shawnee Mission, Kan. 66205
Keeler, Mrs. James E., 422 E. Meyer Blvd. 64131
Kendall, Mrs. Charles A., 658 Red Rd., Independence 64050
Kennard, Mrs. G. Keith, 3658 Madison 64111
Kent, Mrs. Bela, 5839 Cherokee Dr., Shawnee Mission, Kan. 66205
Kettner, Mrs. Edward G., 6510 Milhaven Dr., Shawnee Mission, Kan. 66202
Kiene, Mrs. Richard H., 5835 High Dr., Shawnee Mission, Kan. 66208
Kimball, Mrs. Merritt H., 610 E. 36th 64109
King, Mrs. Tenbrook, 8228 Linden Dr., Prairie Village, Kan. 66208
Kitchen, Mrs. W. M., 2700 W. 68th, Shawnee Mission, Kan. 66208
Klein, Mrs. E. H., 7011 Roe, Prairie Village, Kan. 66208
Knight, Mrs. John S., 5800 High Dr., Shawnee Mission, Kan. 66208
Knight, Mrs. Lyle B., 108 Madison La., Lee's Summit 64063
Knoch, Mrs. H. Kermit, 6606 Willow La., Shawnee Mission, Kan. 66208
Koontz, Mrs. Paul G., 301 W. 54th 64112
Korth, Mrs. William M., 6615 Overhill Rd., Shawnee Mission, Kan. 66208
Kranson, Mrs. Seymour J., 11 Hawthorne Pl., Independence 64052
Krueger, Mrs. Haven, 7700 Booth Dr., Prairie Village, Kan. 66208
Kyger, Mrs. John E., 3612 Blue Ridge, Independence 64052
Lally, Mrs. James J., 800 W. 52nd Terr. 64112
Lamar, Mrs. Frederick C., 803 W. 48th, Apt. 12, 64112
Lamar, Mrs. Robert F., 800 W. 53rd Terr. 64112
Lambie, Mrs. Roger W., 9261 Reeder Dr., Overland Park, Kan. 66204
Landis, Mrs. George K., 10115 Pawnee La., Shawnee Mission, Kan. 66206
Lapp, Mrs. Harry C., 638 W. 59th 64113
Latham, Mrs. Raymond W., 3008 W. 67th, Shawnee Mission, Kan. 66208
Lauer, Mrs. Daniel J., 8718 Cherokee Lane, Leawood, Kan. 66206
Layton, Mrs. Ira C., 1025 Greenway Terr. 64113
Lee, Mrs. Henry A., 9821 Sagamore Rd., Leawood, Kan. 66206

Leifer, Mrs. William, 2001 W. 70th, Shawnee Mission, Kan. 66208
Leitch, Mrs. Cecil G., Route 2, Box 222, Blue Springs 64015
Leitz, Mrs. Frank B., 308 W. 116th 64114
Lemoine, Mrs. Albert N., Sr., 9200 High Dr., Leawood, Kan. 66206
Leo, Mrs. William A., 4505 W. 66th, Prairie Village, Kan. 66208
Lewis, Mrs. Revis C., 1001 W. 56th 64113
Lichtor, Mrs. Joseph M., 2109 W. 70th, Prairie Village, Kan. 66208
Lieberman, Mrs. B. Albert, Jr., 1229 W. 67th 64113
Link, Mrs. Vance E., 1201 W. 36th, Independence 64050
Littlejohn, Mrs. Robert, 5215 W. 63rd Terr., Shawnee Mission, Kan. 66208
Lloyd, Mrs. Ivan E., 1816 Rankin Dr., Independence 64050
Long, Mrs. R. Stacy, 3343 Blue Ridge Blvd., Independence 64052
Lowell, Mrs. Paul, 4742 Liberty 64112
Lytton, Mrs. George J., 617 W. 49th 64112
Maccubbin, Mrs. Don A., 4820 W. 81st, Shawnee Mission, Kan. 66208
Mangels, Mrs. Kenneth A., Sr., 1103 W. 36th Terr., Independence 64050
Mantz, Mrs. Herbert L., 1209 Romany Rd. 64113
Marks, Mrs. Mark M., 6537 Summit 64113
Marshall, Mrs. C. F., 5510 Belinder Rd., Shawnee Mission, Kan. 66205
Martin, Mrs. Clyde V., 5531 E. Mission Dr., Shawnee Mission, Kan. 66208
Masterson, Mrs. Byron J., 5910 Sunrise Dr., Shawnee Mission, Kan. 66205
Mason, Mrs. Wayne, 2814 W. 92nd, Leawood, Kan. 66202
Masucci, Mrs. Joseph M., 1012 W. 96th Terr. 64114
Maxwell, Mrs. John A., 5908 W. 62nd Terr., Shawnee Mission, Kan. 66202
May, Mrs. James W., 3501 W. 63rd, Shawnee Mission, Kan. 66208
Mayer, Mrs. John H., Jr., 5739 Windsor Dr., Shawnee Mission, Kan. 66205
McCanse, Mrs. Andrew, 1232 W. 60th Terr. 64113
McClanahan, Mrs. Robert C., 6456 Overbrook Rd., Shawnee Mission, Kan. 66208
McCoy, Mrs. Fred, 5720 Foster, Shawnee Mission, Kan. 66202
McCubbin, Mrs. C. Roy, 8612 Meadow Lane, Shawnee Mission, Kan. 66206
McCunniff, Mrs. William B., 3719 Jarboe 64111
McDonnell, Mrs. John F., 5411 Central 64112
McFarland, Mrs. M. Donald, 5830 High Dr., Shawnee Mission, Kan. 66208
McGannon, Mrs. Paul T., 4806 Pawnee La., Shawnee Mission, Kan. 66205
McHale, Mrs. Thomas Cecil, 3003 W. 90th Terr. 66206
McIntosh, Mrs. Donald E., 4335 Brentwood, Independence 64050
McKee, Mrs. Joseph W., 9610 Overbrook Rd., Leawood, Kan. 66206
McMillan, Mrs. Thomas E., 8201 Dearborn, Shawnee Mission, Kan. 66208
McRay, Mrs. Glen, 3715 Johnson Dr., Shawnee Mission, Kan.
McVay, Mrs. James R., Jr., 1233 W. 63rd Terr. 64113
Medlicott, Mrs. William J., 1260 W. 59th 64113
Melgaard, Mrs. S. Ross, 1012 W. 61st Terr. 64113
Meyer, Mrs. Paul W., 5160 Sunset Dr. 64112
Meyers, Mrs. Harold L., 1901 Brookwood Rd., Shawnee Mission, Kan. 66208
Miles, Mrs. George O., 2231 W. 63rd, Shawnee Mission, Kan. 66208
Miller, Mrs. Clint L., 211 Oxford Dr., Lee's Summit 64063
Miller, Mrs. Gerald L., 836 W. 51st 64112
Miller, Mrs. Max I., 4001 W. 66th St., Prairie Village, Kan. 66208
Miller, Mrs. Wade H., 4550 Warwick Blvd., Apt. 508 64111
Miller, Mrs. Wilson Herrick, 6400 Verona Rd., Shawnee Mission, Kan. 66208
Mitra, Mrs. Nirmal, 2007 W. 81st Terr., Leawood, Kan. 66206
Mixson, Mrs. William C., 6501 Sagamore Rd., Shawnee Mission, Kan. 66208
Montello, Mrs. Samuel A., 4109 Delmar Dr., Prairie Village, Kan. 66208
Mooney, Mrs. Justin L., 5717 Windsor Rd., Shawnee Mission, Kan. 66205
Mooney, Mrs. Marcel L., 6439 Ensley La., Prairie Village, Kan. 66208
Moreano, Mrs. Armando H., 3920 W. 57 Terr., Shawnee Mission, Kan. 66205
Morgan, Mrs. David B., 6513 Jefferson 64113
Morris, Mrs. Joseph H., 5017 George 64133
Morrow, Mrs. Raymond L., 17 W. 69th 64113
Moss, Mrs. Paul, 420 E. 64th Terr. 64131
Mosser, Mrs. Robert S., 3114 S. Norton, Independence 64052
Mueller, Mrs. M. J., 6441 Holmes 64131
Mullen, Mrs. Leo M., 4441 Paseo Blvd. 64110
Murphy, Mrs. Edward S., 421 W. 68th St. 64113
Murphy, Mrs. Robert J., 6428 High Dr., Shawnee Mission, Kan. 66208
Myers, Mrs. Robert M., 804 W. 65th 64113
Myers, Mrs. Wilson A., 425 Huntington Rd. 64113
Naime, Mrs. Mansour J., 5209 W. 79th, Shawnee Mission, Kan. 66208
Needels, Mrs. Orval T., 207 W. 67th Terr. 64113
Nelson, Mrs. Bentley A., 6429 Willow La., Shawnee Mission, Kan. 66208
Nesselrode, Mrs. John H., 12000 Marbec Trail, Independence 64052
Newman, Mrs. Robert L., 4957 Norwood, Shawnee Mission, Kan. 66205
Nickson, Mrs. Charles E., Jr., 4425 Larson 64133
Nigro, Mrs. E. Robert, 415 W. 55th 64113
Noback, Mrs. R. K., 628 W. 67th 64113
Noltensmeyer, Mrs. Milton, 3305 S. 50th Terr., Shawnee Mission, Kan. 66205
Nunn, Mrs. P. M., 3418 Karnes Blvd. 64111
O'Hearne, Mrs. John J., 5529 High Dr., Shawnee Mission, Kan. 66208
O'Neil, Mrs. James H., 2111 W. 69th Terr., Shawnee Mission, Kan. 66208
Osborne, Mrs. Jerre O., C 15, Lake Lotawana, Route 4, Lee's Summit 64063
Overesch, Mrs. Harry B., 10804 Grandview Rd. 64137
Ozar, Mrs. Milton B., 1206 W. 62nd 64110
Padfield, Mrs. Earl G., 1900 W. 61st Terr., Shawnee Mission, Kan. 66208
Pakula, Mrs. Steven B., 4404 W. 91st, Prairie Village, Kan. 66207
Pakula, Mrs. Sidney F., 5225 Charlotte 64110
Pallett, Mrs. Harold A., 4618 Warwick 64112
Parker, Mrs. Hubert M., 1200 W. Red Bridge Rd. 64114
Passman, Mrs. Harold, 416 E. 72nd Terr. 64131
Payne, Mrs. William B., 5325 W. 101 Terr., Overland Park, Kan. 66207
Pearson, Mrs. Paul, 5820 Howe Dr., Shawnee Mission, Kan. 66205
Peete, Mrs. Don Carlos, 3717 Belleview 64111
Penner, Mrs. Stanley, 5119 W. 75th, Shawnee Mission, Kan. 66208
Perico, Mrs. Carlos, 8446 Juniper, Prairie Village, Kan. 66207
Perll, Mrs. Maurice F., 830 W. 61st Terr., 64113
Perry, Mrs. Ralph, 7140 Sni-A-Bar Rd. 64129
Peterson, Mrs. Milton C., 8381 Somerset Dr., Shawnee Mission, Kan. 66207
Petry, Mrs. E. L., 6520 Reeds Dr., Shawnee Mission, Kans. 66202
Pfeutze, Mrs. Edwin L., 5407 W. 100th Terr., Overland Park, Kan. 66204
Piper, Mrs. Donald K., 9929 High Dr., Shawnee Mission, Kan. 66206
Pipkin, Mrs. Garrett, 5427 Baltimore 64112
Pollock, Mrs. Leo H., 6601 Wenonga Terr., Shawnee Mission, Kan. 66208
Pope, Mrs. Charles M., Jr., 14401 E. 44th, Independence 64050
Porter, Mrs. Louis, 6017 McGee 64113
Potts, Mrs. Donald, 18508 E. 30th Terr., Independence 64050
Powers, Mrs. John M., 3838 Blue Ridge Blvd., Independence 64052
Preston, Mrs. Albert, Jr., 606 W. Meyer Blvd. 64113
Printz, Mrs. Joseph H., 820 W. 64th Terr. 64113
Pugh, Mrs. Richard George, 600 Dickinson Rd., Independence 64050
Quer, Mrs. Erich A., 1901 Stratford Rd., Shawnee Mission, Kan. 66208
Quistgard, Mrs. Paul C., 7300 Manchester 64133
Raich, Mrs. Robert A., 828 Greenway Terr. 64113
Ramey, Mrs. Ehret O., 8108 Ward Parkway Plaza 64114
Rector, Mrs. Joe Lee, Jr., 3915 W. 53rd, Shawnee Mission, Kan. 66205
Reinhardt, Mrs. G. Robert, 1201 Romany Rd. 64113
Rhoades, Mrs. Arthur, 111th & Antioch Rd., Box 292, Lenexa, Kan. 66215
Riller, Mrs. L. E., 1267 W. 61st 64113
Rinkel, Mrs. Marie Thiessen, 6405 Sagamore Rd., Shawnee Mission, Kan. 66208
Roberts, Mrs. Harold M., 1005 Brentwood Cir. 64112
Roberts, Mrs. Sam E., 5964 Overhill Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Arthur W., 6600 Wenonga Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Ernest Kip, 1015 W. 58th Terr. 64113
Robinson, Mrs. William J., 9931 Lee Cir., Shawnee Mission, Kan. 66206
Robison, Mrs. James Travis, Jr., 4203 W. 92nd Terr., Shawnee Mission, Kan. 66207
Rodgers, Mrs. George H., 10041 El Monte La., Overland Park, Kans. 66204
Rubin, Mrs. Sidney, 1287 W. 72nd 64114
Rubnitz, Mrs. Leon H., 210 W. 94th 64114
Russell, Mrs. James L., 1250 W. 56th 64113
Sabates, Mrs. Felix, 1250 W. 67th Terr. 64113
Saferstein, Mrs. A. Lester, 6859 Cherry 64131
Sanders, Mrs. Clarence E., 4700 Roanoke Pkwy. 64112
Sanders, Mrs. Donald, 11721 Oak 64114
Sanders, Mrs. William F., 1004 W. 66th Terr. 64113
Sandow, Mrs. Theodore L., 651 W. 57th 64113
Sauer, Mrs. Gordon C., 830 W. 58th Terr. 64113
Saunders, Mrs. Everett L., 3839 S. Crysler, Independence 64050
Schaerrer, Mrs. W. C., 5245 Mercier 64112
Schiffmacher, Mrs. Jack E., 4517 W. 65th, Prairie Village, Kan. 66208
Schmidt, Mrs. C. Robert, 9526 Cedar, Shawnee Mission, Kan. 66207
Schoolman, Mrs. Arnold, 9112 Bel-Air Circle, Overland Park, Kan. 66207
Schorer, Mrs. Edwin Henry, The Walnuts, 5049 Wornall Rd. 64112
Schottman, Mrs. Gerhard W., Jr., 5010 W. 96th Terr., Shawnee Mission, Kan. 66207
Seely, Mrs. Clark W., 3000 W. 68th St., Shawnee Mission, Kan. 66208
Sells, Mrs. Kenneth J., 5924 Delmar, Mission, Kan. 66222
Shalet, Mrs. Malcolm F., 10223 Woodson Dr., Shawnee Mission, Kan. 66207
Shapiro, Mrs. L. M., 6429 Holmes 64131
Shelden, Mrs. Russell D., 816 W. 58th Terr. 64113
Shifrin, Mrs. Alexander, 1027 W. 69th Terr. 64113
Shireman, Mrs. Kenneth L., 55th Terr. & Noland Rd., Route 3 64133
Shockley, Mrs. Clarence, 5927 McGee 64113
Shuey, Mrs. Herbert H., 933 E. 77th Terr. 64131
Shumate, Mrs. D. L., 3703 Penn 64111
Shypper, Mrs. M. J., 4738 Oak 64112
Simon, Mrs. Sanford, 8129 Rosewood, Shawnee Mission, Kan. 66208
Sinclair, Mrs. Alexander B., Jr., 1230 W. 61st Terr. 64113
Singleton, Mrs. J. Milton, 4618 Warwick Blvd. 64112
Singleton, Mrs. J. Milton, III, 634 W. 60th Terr. 64113
Skillman, Mrs. Robert K., 10335 High Dr., Shawnee Mission, Kan. 66206
Skinner, Mrs. John T., 824 Westover Rd. 64113
Slankard, Mrs. J. Edward, 7223 Summit 64114
Slentz, Mrs. Edwin L., 4812 W. 66th Terr., Shawnee Mission, Kan. 66208
Slentz, Mrs. William A., 9835 Pembroke Lane, Shawnee Mission, Kan. 66206
Slickman, Mrs. Robert A., 4937 Wyoming 64112
Smith, Mrs. Arthur B., 10130 Pawnee La., Leawood, Kan. 66206

Smith, Mrs. Ira T., 2 Wycklow, Shawnee Mission, Kan. 66207
Smith, Mrs. O. D., 6300 Woodson Rd., Mission, Kan. 66202
Smith, Mrs. Wallace B., 3611 S. Delaware, Independence 64050
Sneid, Mrs. Philip, 4201 W. 90th Terr., Overland Park, Kan. 66204
Snider, Mrs. Sam H., 722 Ward Parkway 64112
Snider, Mrs. W. Ray, 14501 Berkshire Dr., Independence 64050
Somoza, Mrs. Jose R., 6614 Indiana 64132
Spafford, Mrs. Allen L., 5552 Belinder Ave., Shawnee Mission, Kan. 66205
Spencer, Mrs. Donald M., 10200 E. 85th Terr., Raytown 64138
Spurny, Mrs. Otto M., 6400 Cherry 64131
Stacey, Mrs. Wallace R., 3407 Shady Bend Dr., Independence 64052
Staggs, Mrs. William A., 641 E. 45th St. 64110
Staley, Mrs. Harry R., 5028 Sunset Dr. 64112
Statland, Mrs. Harry, 1016 W. 69th Terr. 64113
Statland, Mrs. Morris, 2911 W. 66 Terr., Shawnee Mission, Kan. 66208
Steffen, Mrs. L. F., 5521 Crestwood Dr. 64110
Stelle, Mrs. Charles W., 4304 W. 82nd Terr., Shawnee Mission, Kan. 66208
Stelmach, Mrs. W. Jack, 4303 W. 93rd Terr., Prairie Village, Kan. 66208
Stockton, Mrs. Raymond W., 5215 W. 81st, Prairie Village, Kan. 66208
Stockwell, Mrs. A. Lloyd, 5736 Windsor Dr., Shawnee Mission, Kan. 66205
Stratemeier, Mrs. Edward H., Jr., 9728 High Dr. Leawood, Kan. 66206
Strauss, Mrs. Carl F., 8330 Nall Ave., Shawnee Mission, Kan. 66207
Stribling, Mrs. Thomas L., 5006 George 64133
Summers, Mrs. Caldwell B., 7312 Jarboe 64114
Sutton, Mrs. Richard L., Jr., 5400 Ward Pkwy. 64112
Swisher, Mrs. Robert C., 6034 Lockton La., Shawnee Mission, Kan. 66205
Szabados, Mrs. Ernest D., 1901 S. Leslie, Independence 64050
Tarson, Mrs. Solomon S., 5511 W. 85th, Overland Park, Kan. 66204
Tasker, Mrs. Charles B., 2721 W. 67th Terr., Shawnee Mission, Kan. 66208
Teare, Mrs. Max, 11201 Walnut 64114
Thiele, Mrs. George H., 6526 High Dr., Shawnee Mission, Kan. 66208
Thomas, Mrs. Christopher Y., Jr., 5830 Mission Dr., Shawnee Mission, Kan. 66208
Thompson, Mrs. Charles L., 1256 W. 61st Terr. 64113
Tice, Mrs. Wayne K., 3504 S. Delaware, Independence 64050
Trippe, Mrs. Harrison C., 317 W. 51st 64112
Troeh, Mrs. Richard, 306 Leslie Dr., Independence 64050
Trowbridge, Mrs. E. H., Jr., 6436 High Dr., Shawnee Mission, Kan. 66208
Tutera, Mrs. D. F., 1260 W. 63rd Terr. 64113
Twin, Mrs. Edward, 2921 W. 67th Terr., Shawnee Mission, Kan. 66208
Twyman, Mrs. Richard A., 1020 W. 56th St. 64113
Underwood, Mrs. Dick Holland, 2008 W. 95th St., Leawood, Kan. 66206
Valins, Mrs. Eugene, 9518 W. 87th, Apt. 4, Shawnee Mission, Kan. 66212
Van Biber, Mrs. James T., 3705 Northern Blvd., Independence 64052
Van Buskirk, Mrs. William C., 1909 W. 67th, Shawnee Mission, Kan. 66208
Van Del, Mrs. Dwight T., 7531 Terrace 64114
Vaughn, Mrs. James W., 5509 W. 86th, Shawnee Mission, Kan. 66207
Vilmer, Mrs. Charles E., 6209 W. 65th, Shawnee Mission, Kan. 66202
Vincent, Mrs. Jack C., 2003 W. 67th Terr., Shawnee Mission, Kan. 66208
Virden, Mrs. Herbert H., 6533 High Dr., Shawnee Mission, Kan. 66208
Voth, Mrs. Harold W., 5413 Neosho, Shawnee, Mission, Kan. 66205
Wade, Mrs Frederick E., 413 W. 62nd 64113
Wagner, Mrs. Paul J., 5501 W. 61st Terr., Shawnee Mission, Kan. 66202
Wakefield, Mrs. Franklin H., 8352 Overbrook Rd., Leawood, Kan. 66206
Walker, Mrs. James C., 609 E. 96th 64131
Walker, Mrs. John W., 10336 Mohawk Lane, Shawnee Mission, Kan. 66206
Walker, Mrs. Orville C., Jr., 604 Partridge, Independence 64050
Wall, Mrs. Harry C., 2425 W. 67th, Shawnee Mission, Kan. 66208
Wall, Mrs. Leonard A., 5011 Neosho Ave., Shawnee Mission, Kan. 66205
Waxman, Mrs. Herbert, 2312 W. 79th Terr., Prairie Village, Kan. 66208
Webster, Mrs. Joseph G., 5532 Locust 64110
Weiford, Mrs. Edward C., 2009 W. 68th, Shawnee Mission, Kan. 66208
Wheeler, Mrs. Charles B., 820 W. 57th 64113
Wheeler, Mrs. Charles B., 820 W. 57th 64113
Wheeler, Mrs. John H., 5650 Mission Dr., Shawnee Mission, Kan. 66208
White, Mrs. Charles H., 6518 Overhill Rd., Prairie Village, Kan. 66208
White, Mrs. James S., 5413 Cleveland 64130
White, Mrs. Stoughton F., 6815 Cherokee La., Shawnee Mission, Kan. 66208
White, Mrs. William E., 613 W. 57th Terr. 64113
Whiteman, Mrs. John R., 9729 Cherokee La., Leawood, Kan. 66206
Whitman, Mrs. Doyle C., 6836 Cherokee La., Shawnee Mission, Kan. 66208
Whitmore, Mrs. J. Stewart, 1039 W. 58th St. 64113
Whittaker, Mrs. Charles K., 1225 W. 64th 64113
Wilhelm, Mrs. Warren F., 3100 W. 67th Shawnee Mission, Kan. 66208
Wilkinson, Mrs. E. A., 6810 Linden La., Prairie Village, Kan. 66208
Williams, Mrs. Delon Acree, 1252 Stratford Rd. 64113
Williams, Mrs. Joseph C., Jr., 2209 Arno Rd., Shawnee Mission, Kan. 66202
Williams, Mrs. Roland Dean, 3635 Belleview 64111
Williams, Mrs. Vincent T., 4400 Blue Ridge Blvd. 64133
Willits, Mrs. Lyle G., 1224 W. 62nd 64113
Willoughby, Mrs. James W., 420 N. Ridge, Liberty 64068
Willoughby, Mrs. Jean B., 1019 W. 69th Terr. 64113
Wilson, Mrs. Brickhouse, 700 Ward Pkwy. 64112
Wilson, Mrs. Clifford C., 5531 Neosho La., Shawnee Mission, Kan. 66205
Winer, Mrs. Herbert J., 2103 W. 69th Terr., Shawnee Mission, Kan. 66208
Winston, Mrs. Bernard H., 1006 W. 67th 64113
Wise, Mrs. George W., 4610 Homestead Dr., Prairie Village, Kan. 66208
Wolf, Mrs. Jack, 6125 Morningside Dr. 64113
Woods, Mrs. S. Dwight, 3408 W. 69th, Shawnee Mission, Kan. 66208
Woodward, Mrs W. W., 3610 S. Delaware, Independence 64050
Workman, Mrs. Charles E., 6609 Milhaven Dr., Shawnee Mission, Kan. 66202
Wortmann, Mrs. Robert F., 2819 W. 66th Terr., Shawnee Mission, Kan. 66208
Wright, Mrs. R. Paul, 4902 Belinder Rd., Shawnee Mission, Kan. 66206
Wu, Mrs. William, 4414 Homestead Dr., Prairie Village, Kan. 66208
Wurster, Mrs. W. Joel, 2015 Drury La., Shawnee Mission, Kan. 66208
Youll, Mrs. Donald V., 8329 High Dr., Shawnee Mission, Kan. 66206
Young, Mrs. James E., 9700 Overbrook Rd., Leawood, Kan. 66206
Young, Mrs. J. W., 5443 Mohawk, Shawnee Mission, Kan. 66205
Young, Mrs. Paul R., 7424 Gregory Cir., 64113
Youngblood, Mrs. James, 1209 W. 58th 64113
Zellermayer, Mrs. Jack, 5801 Lockton La., Shawnee Mission, Kan. 66205
Zoglin, Mrs. Nathan, 333 W. Meyer Blvd. 64113

JASPER COUNTY
(Joplin)

Adams, Mrs. Robert, 2314 Wisconsin 64801
Allen, Mrs. David D., 505 W. 34th 64801
Barnett, Mrs. Norman H., Route 3, Box 181, Tabor Woods 64801
Birsner, Mrs. Frank, 1717 River, Carthage 64836
Black, Mrs. Mervin H., 1001 W. Murphy Blvd. 64801
Bladow, Mrs. Terrence, 2703 Missouri 64801
Burch, Mrs. John E., 1345 Crest Dr., 64801
Carnes, Mrs. Victor, 710 N. Sergeant 64801
Chase, Mrs. Ned B., 2931 Indiana 64801
Chesney, Mrs. George W., Jr., 2416 E. 12th 64801
Cohle, Mrs. Richard, 1609 Lilac La., Carthage 64836
Craig, Mrs. Irwin T., 2525 E. 12th 64801
Crawford, Mrs. A. L., 2931 Pearl Ave. 64801
Crispell, Mrs. Lawrence S., 911 Kensington 64801
Curl, Mrs. Howard, 2031½ Pearl 64801
Detar, Mrs. Burleigh, Sr., 410 Jackson 64801
Esther, Mrs. John R., 612 Glenview 64801
Ferguson, Mrs. Lewis H., 604 Plaza Dr. 64801
Ferguson, Mrs. Ralph, 420 E. 33rd 64801
Fritsch, Mrs. Andrew J., 2920 Pearl 64801
Hallaba, Mrs. Moheb A. S., 808 Hampton Pl. 64801
Hornback, Mrs. Edward H., 2841 E. 14th 64801
Isbell, Mrs. C. H., 1046 S. Garrison, Carthage 64836
Jeans, Mrs. Virgil, 629 Islington Pl. 64801
Kirschman, Mrs. Robert E., Route 4, Box 359 64801
Koehler, Mrs. John W., 1001 Manitou 64801
Longenecker, Mrs. J. L., 2606 E. 14th 64801
Maclaughlin, Mrs. James C., 2414 Wisconsin 64801
Maddox, Mrs. John D., 1330 Crest Dr. 64801
McNew, Mrs. W. T., 1204 S. Main 64836
McPike, Mrs. Lloyd H., 2217 Brownell 64801
Myers, Mrs. Roy E., 623 Sergeant 64801
Paddock, Mrs. Charles S., 3910 Range Line 64801
Papp, Mrs. Sandor D., 3343 Pearl 64801
Patterson, Mrs. Donald R., Route 1, Box 481 64801
Patterson, Mrs. Grover S., 1717 River, Carthage 64836
Pence, Mrs. F. Wendell, Route 2, Box 309, Carthage 64836
Post, Mrs. Winfred L., 2630 E. 15th 64801
Powell, Mrs. Robert G., 818 Galena Ave., Galena, Kan.
Schmidt, Mrs. Herbert J., 820 North Moffet 64801
Schoeherl, Mrs. C. B., 3111 E. 4th 64801
Schulte, Mrs. Gregory A., 2515 E. 12th 64801
Scorse, Mrs. S. W., 619 W. 2nd 64801
Smith, Mrs. Roland T., 426 N. Pearl 64801
Smith, Mrs. Russell W., 315 Euclid, Carthage 64836
Upsher, Mrs. Albert E., 69 Canterbury Lane 64801
Walker, Mrs. Paul, 1022 N. Sergeant 64801
Wieman, Mrs. Harry K., 536 N. Wall 64801
Wood, Mrs. George H., 530 E. Highland, Carthage 64836
Wooldridge, Mrs. Bart F., 1435 Crest Dr. 64801
Young, Mrs. C. C., 2518 E. 15th 64801

JEFFERSON COUNTY

Albee, Mrs. Roger, 121 B. Mississippi Ave., Crystal City 63019
Bolgar, Mrs. Bertalan, 228 North Adams, Festus 63028
Deles, Mrs. Vincente, 225 Mississippi Ave., Crystal City 63019
Donnell, Mrs. Harold, Box 571, De Soto 63020
Donnell, Mrs. Hart, Crystal Hghts., Crystal City 63019
Fallet, Mrs. Charles, 624 Kelly, De Soto 63020
Ibaviosa, Mrs. Alfred, Alexander Dr., Festus 63028
Judge, Mrs. Thomas, 1004 Taylor, Crystal City 63019
Kozal, Mrs. Frank, Treebrook Ln., Crystal City 63019
McKinstry, Mrs. Karl, De Soto 63020
Rutledge, Mrs. John, 409 Mississippi Ave., Crystal City 63019
Senn, Mrs. Emmett, Herculaneum 63084

JOHNSON COUNTY
(Warrensburg 64093)

Cada, Mrs. Edward, 901 E. Clark
Cooper, Mrs. R. Lee, 411 W. Gay
Folkner, Mrs. Albert L., 316 Hillcrest Dr.
Frein, Mrs. D. E., Leeton 64761
Gonzalez, Mrs. Mario Garza, 508 Jefferson
Hanna, Mrs. Hugh, 1017 Christopher
Harkness, Mrs. Harry H., Burkarth Rd.
Johnson, Mrs. Charles S., 502 Hurricane Hill
Jones, Mrs. Keith D., 910 E. Clark
Lederer, Mrs. Charles M., 617 Clark
Maxson, Mrs. R. Reed, Arilen Acres

LAFAYETTE-RAY COUNTIES

Best, Mrs. Robert, Higginsville 64037
Boydston, Mrs. Wayne, 525 S. 2nd, Odessa 64076
Brady, Mrs. Hugh, Box N, Concordia 64020
Brasher, Mrs. Ben H., Aull Lane, Lexington 64067
Cook, Mrs. Edna, 426 N. College, Richmond 64085
Cook, Mrs. Thos. B., Dunn's Lane, Richmond 64085
Cope, Mrs. Joseph S., Lexington 64067
Crozier, Mrs. Frank, Sr., Route 2, Richmond 64085
Davault, Mrs. George, 411 E. Main, Richmond 64085
Fulkerson, Mrs. W. E., Higginsville 64037
Huber, Mrs. Herbert, 205 E. Royle, Richmond 64085
Johnston, Mrs. Esther, 506 Leona, Concordia 64020
Kelling, Mrs. Douglas, Waverly 64096
Kelling, Mrs. Jordan, Waverly 64096
Koppenbrink, Mrs. W. E., Jr., 1303 Main, Higginsville 64037
Koppenbrink, Mrs. W. E., Sr., 605 Main, Higginsville 64037
LaHue, Mrs. William, Lexington 64067
Liston, Mrs. Odis, 704 Locust, Oak Grove 64075
Martin, Mrs. W. E., 403 S. 2nd, Odessa 64076
McFadden, Mrs. Gene, Waverly 64096
Riley, Mrs. Charles, Route 2, Richmond 64085
Ward, Mrs. Joe W., 1004 Frances, Lexington 64067
Williams, Mrs. John, 801 W. 15th, Oak Grove 64075

LINCOLN-ST. CHARLES COUNTIES
(St. Charles 63301)

Baird, Mrs. Keim L., 608 Pam
Barnette, Mrs. Eugene, 2626 W. Adams
Berry, Mrs. Paul, 160 Harris, Troy 63379
Canty, Mrs. Eugene, 1824 Sibley
Clay, Mrs. Calvin, 808 Oak
Clever, Mrs. Henry, 815 Indian Hills Dr.
Commerford, Mrs. John, 10 Rie Vista
Creech, Mrs. Joseph, Troy 63379
Crider, Mrs. Russell, 1875 S. River Rd.
Damron, Mrs. Edward, 602 N. 5th, Elsberry 63343
Duling, Mrs. Gerald, 5 Shawnee Dr.
DuMontier, Mrs. R. J., O'Fallon 63366
Felder, Mrs. James, 3008 W. Adams
Fleming, Mrs. Robert, 2 Indian Hills Ct.
Goldkamp, Mrs. John, 2620 Park
Gore, Mrs. Glenn, 140 Ladue Pines Rd., Creve Coeur 63141
Hetlage, Mrs. Louis, 5 Sunset Dr., Troy
Gossow, Mrs. Geret, 3029 Flamingo Dr.
Hammes, Mrs. Roman, 505 Concordia
Hanlon, Mrs. Russell, 2616 Brookridge La. 63379
Hurd, Mrs. Ronald, 115 S. Cardinal Lane
Keller, Mrs. Robert, 712 Parr, Wentzville 63385
Kister, Mrs. George, 236 Thomas
Linsenmeyer, Mrs. Charles, 445 Nantuckett
Muenster, Mrs. Vincent, 3 Briarwood
Perna, Mrs. Vincent, 14 Rio Vista
Poggemeier, Mrs. William, 140 Prairie Haute
Roter, Mrs. Alex, 2224 W. Adams
Rother, Mrs. Paul, 7 Elmwood Park
Schneider, Mrs. Thomas, 3208 W. Adams
Schneider, Mrs. Vincent, 2207 W. Adams
Scokel, Mrs. Paul, 3000 Elmhurst
Shuetz, Mrs. Alfred, 904 Indian Hills Dr.
Slotkin, Mrs. Robert, 601 Indian Hills Dr.
Smoller, Mrs. Martin, 14 Colonial Hills Pkway, Creve Coeur 63141
Thiele, Mrs. Otto, 3100 W. Adams
Towers, Mrs. Orville W., Elm Point Rd.
Westerfeld, Mrs. Roy, 32 Ayshire, Route 4
Vart, Mrs. Gary, 2220 Dreste Rd.
Wipfler, Mrs. Earl, 143 N. Cardinal
Yaeger, Mrs. Gerald, 1916 Sibley

MILLER-MONITEAU-MORGAN

Buehler, Mrs. Carl T., Jr., Eldon 65026
Burke, Mrs. J. P., California 65018
Fulks, Mrs. Richard B., California 65018
Gallagher, Mrs. Lionel M., California 65018
Gunn, Mrs. Jack, Versailles 65084
Latham, Mrs. Kenyon, 200 S. High, California 65018
Lyle, Mrs. Ray, Versailles 65084
Shelton, Mrs. E. O., Eldon 65026
Washburn, Mrs. J. L., Versailles 65084

MINERAL AREA
(St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve Counties)

Appleberry, Mrs. Charles H., 706 W. Main, Flat River 63601
Appleberry, Mrs. Reuben, 815 W. Columbia, Farmington 63640
Bull, Mrs. Ben, 109 S. Knob, Ironton 63650
Burcham, Mrs. Tom R., Highway W.,
Carleton, Mrs. Charles E., 501 Center, Farmington 63640
Chastain, Mrs. C. W., Route 3, Farmington 63640
Crouch, Mrs. F. Richard, 714 Ste. Genevieve, Farmington 63640
Dennis, Mrs. Paul, 709 Tyler, Flat River 63601
Ford, Mrs. William, 34 Tanglewood, Farmington 63640
Foster, Mrs. Jack L., Desloge 63601
Hardy, Mrs. Stanton L., 807 N. Main, Desloge 63601
Huckstep, Mrs. Robert A., Route 1, Farmington 63640
Hunt, Mrs. John W., Jr., State Hospital No. 4 Farmington 63640
Karraker, Mrs. Alvan G., 507 North St., Farmington 63640
Mullen, Mrs. Jack, Route 2, Bonne Terre 63628
Oliver, Mrs. George A., 117 Oak Hill Downs, Farmington 63640
Osborn, Mrs. R. W., III, State Hospital Grounds, Farmington 63640
Taylor, Mrs. Van W., 54 Church St., Bonne Terre 63628
Turner, Mrs. Kirby, Potosi 63664
Watkins, Mrs. George Linn, 812 Dewey, Farmington 63640
Watkins, Mrs. George L., 813 Dewey, Farmington 63640

PETTIS COUNTY
(Sedalia 65301)

Boger, Mrs. John W., 2803 Skyline Dr.
Brady, Mrs. Charles H., 720 W. 5th St.
Braverman, Mrs. Elliot M., 2510 Wing Ave.
Brazos, Mrs. John, Route 2
Campbell, Mrs. Albert J., 1500 W. 16th
Edwards, Mrs. David R., 1619 S. Moniteau
Eldenburg, Mrs. Donald, Route 2
Fisher, Mrs. Stanley D., 2200 S. Kentucky
Gonser, Mrs. Karl B., 1619 W. Broadway
Hite, Mrs. H. A., 416 S. Grand
Hopkins, Mrs. Thomas J., 1506 W. Broadway
Lamy, Mrs. John E., 509 W. Broadway
Long, Mrs. Frank B., 723 W. 7th
Proctor, Mrs. Donald C., 717 W. 6th
Roberts, Mrs. Paul A., 101 E. Marshall, Sweet Springs 65351
Siegel, Mrs. Carl D., 11117 Glen Arbor Terr., Kansas City 64114
Stauffacher, Mrs. Gordon C., 1313 W. Broadway
Stewart, Mrs. Robert H., 201 Driftwood Dr.
Stockwood, Mrs. Robert G., 1600 W. 7th
Van Dyke, Mrs. Elmer, 2205 W. 5th St.
Walters, Mrs. A. L., 1000 W. 7th St.
Worley, Mrs. C. A., 102 W. Ray, Sweet Springs 65351

ST. LOUIS CITY
(St. Louis)

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Allen, Mrs. Wallard M., 12538 Conway Rd. 63141
Arneson, Mrs. Axel N., 6314 Waterman 63130
Arnot, Mrs. John P., 523 Gatehill Lane, Ballwin 63011
Babka, Mrs. Joseph J., 6400 Bancroft 63109
Backer, Mrs. Matt H., Jr., 101 Flamingo Dr. 63123
Bandle, Mrs. Donald F., 3801 January 63109
Barden, Mrs. Frank W., 41 Beaver Dr. 63141
Bartlett, Mrs. Robert W., 6459 Wydown 63105
Bartlett, Mrs. Willard, Jr., 6345 Ellenwood 63105
Bartlett, Mrs. Willard, Sr., 53 Westmoreland Pl. 63108
Bartnick, Mrs. Mitchell L., 6476 Eichelberger 63109
Bassett, Mrs. Robert B., 2 Beverly Pl. 63112
Becke, Mrs. William G., 18 Lorenzo La. 63124
Becker, Mrs. Stanley C., 11959 Emerald Green Dr. 63141
Bell, Mrs. Robert M., 35 Glen Rd. 63119
Benjamin, Mrs. Durand, 7340 Navarre Circle 63123
Bilsky, Mrs. Nathan, 2 Somerset Downs 63124
Bindbeutel, Mrs. Arthur H., 3953 Holly Hills 63116
Bircher, Mrs. John L., 3932 Federer Pl. 63116
Boemer, Mrs. Lilburn C., 49 Clermont La. 63124
Bohrer, Mrs. Harry C., 4112 Flora Pl. 63110
Boveri, Mrs. Joseph C., 8201 Fendale Dr. 63123
Boyd, Mrs. Arthur M., 6556 Delor Ave. 63109
Bradley, Mrs. Frank R., 7404 Oxford Dr. 63105
Bradley, Mrs. John Martin, 275 N. Union Blvd. 63108
Brennan, Mrs. George A., 10546 Hanford 63128
Brennan, Mrs. Robert Alexis, 6030 Highfield Rd. 63109
Broun, Mrs. Goronwy Owen, Jr., 6359 Waterman 63130
Brown, Mrs. Clyde O., 7419 York Dr. 63105
Brown, Mrs. E. Eugene, 379 N. Taylor 63108
Brown, Mrs. James Barrett, 710 S. Hanley Rd. 63105
Brown, Mrs. Seymour, 2 Ricardo La. 63124
Bruns, Mrs. Kenneth, 6318 Washington 63130
Budd, Mrs. John J., Jr., 501 Overhill Dr. 63130
Burroughs, Mrs. W. H., 7327 Pershing 63130
Burst, Mrs. Donald O., 61 Trent Dr. 63124
Byrne, Mrs. John Edward, 6465 Westway 63109
Cameron, Mrs. Solon, 43 Washington Terr. 63112
Cannon, Mrs. Edward M., 20 Braircliff 63124
Cannon, Mrs. William J., 43 Clermont La. 63124
Cappel, Mrs. Powell B., 27 Old Westbury La. 63119
Carney, Mrs. Joseph E., 6625 Pernod Ave. 63139
Carroll, Mrs. George A., 7831 Delmar Blvd. 63130
Cary, Mrs. John M., 815 Brookside 63122
Cavanagh, Mrs. Denis, 12 Ridgetop 63117
Chamness, Mrs. James T., 1 St. Andrews Dr. 63124
Cherre, Mrs. Charles J., 10 Ridgetop 63117
Ciapciak, Mrs. Stanley J., 30 Log Cabin Dr. 63124
Clark, Mrs. Clarence L., 705 Questover 63141
Collodi, Mrs. George A., 20 Southcote 63144
Conrad, Mrs. Adolph H., Jr., 9 Dromara Rd. 63124
Cooper, Mrs. Thomas J., 30 Beverly Dr. 63132
Correnti, Mrs. Nicholas A., 6617 Itaska 63109
Costa, Mrs. Dominic V., 10 Devondale La. 63131
Crossman, Mrs. Robert W., 1509 Holly Dr. 63119
Daake, Mrs. John W., 48 Portland Pl. 63108
Dalton, Mrs. Arthur R., 13133 Conway & Mason Rd. 63141
Danforth, Mrs. William H., 7 Black Creek Lane 63124
Dash, Mrs. Udaya N., 1 Winding Brook La. 63124
Dewald, Mrs. Paul A., 60 Convay Lane 63124

Diehr, Mrs. Alvin H., 29 Rio Vista 63124
Diemer, Mrs. Peter A., 2105 Briargate 63141
DiLeo, Mrs. Senatro W., 34 Ridgetop 63117
Donahoe, Mrs. James L., 7336 Princeton, University City 63130
Dorton, Mrs. Robert K., 7375 Stratford 63130
Drake, Mrs. Truman G., 6344 Alexander 63105
Drews, Mrs. Robert C., 7361 Cornell Ave. 63130
Dreyer, Mrs. Carl Joseph, 45 Glen Rd. 63119
Dripps, Mrs. Roy C., 5210 Jamieson 63109
Eades, Mrs. Dee W., 6 Kingsbury Pl. 63112
Eagleton, Mrs. Mark D., 22 Carrswold 63105
Edwards, Mrs. Joseph C., 610 W. Polo Dr. 63105
Egan, Mrs. Robert C., 556 Oak Haven Lane 63141
Eigel, Mrs. Edwin G., 3654 Flora Pl. 63110
Ernst, Mrs. Edwin C., 2 Schultz Rd. 63122
Farris, Mrs. Larry E., 2111 Vitadale Ct. 63136
Feller, Mrs. Harold H., 5834 Bermuda Rd. 63121
Finn, Mrs. Murray Eugene, 47 Portland Pl. 63108
Fish, Mrs. Virgil D., 2500 Town & Country La. 63131
Fitzgerald, Mrs. Leo P., 7219 Cornell Ave. 63130
Fitzgerald, Mrs. William T., 6425 Rhodes 63109
Flotte, Mrs. Bernard H., 6 Lila Lane 63133
Flotte, Mrs. Sylvester, 9113 Glen Garden 63136
Ford, Mrs. Lee T., Jr., 45 Green Acres 63137
Franklin, Mrs. Max S., 7536 Buckingham Dr. 63105
Fries, Mrs. Armand D., 11 W. Geyer La. 63131
Fries, Mrs. John, 106 Frontenac Forest 63131
Gagliardo, Mrs. Joseph, 70 E. Ladue Estates 63141
Gandlmayr, Mrs. Jack M., 541 Beaufort 63122
Gantner, Mrs. George E., Jr., 233 Woodbourne Dr. 63105
Glaser, Mrs. Martin J., 3550 Hawthorne Blvd. 63104
Glick, Mrs. Harry N., 1412 Mason, Route 13, 63131
Goldman, Mrs. Melvin L., 8650 Barby La. 63124
Gomez, Mrs. Cesar A., Jr., 18 Havenview Dr. 63141
Grebel, Mrs. Blement B., 58 Grantwood Lane 63123
Green, Mrs. William R., 5801B Demoret, Fort Knox, Ky. 40121
Greiner, Mrs. Theodore, 7507 Washington 63130
Gresick, Mrs. Robert J., 11 Coach-N-Four La. 63131
Grogan, Mrs. Frank M., 4166 Flora Pl. 63110
Gunn, Mrs. Walter T., 6742 Itaska 63109
Haddock, Mrs. James N., 111 Firwood Dr. 63119
Haeberle, Mrs. Frederick S., 3206 Hebert St. 63107
Hagebusch, Mrs. Omar E., 16 Covington La. 63132
Hall, Mrs. Preston C., 39 Woodcrest Dr. 63124
Hall, Mrs. Robert A., 43 Washington Terr. 63112
Hammond, Mrs. John J., 7245 Maryland 63130
Harkins, Mrs. William M., 7 Kingsbury Pl. 63112
Harris, Mrs. A. Basil, 5354 Waterman 63112
Harris, Mrs. Solon P., 7138 Maryland 63130
Harrison, Mrs. Lee B., 44 Ridgemoor Dr. 63105
Hartnett, Mrs. Leo B., 9833 Waterbury 63124
Hassett, Mrs. Henry A., 4440 Lindell 63108
Haynes, Mrs. Pugh, 8006 Gannon 63130
Heinbecker, Mrs. Peter, 4643 Pershing 63108
Henderlite, Mrs. John W., 11927 Spruce Haven Ct. 63141
Henschel, Mrs. Eugene V., 55 Broadview Dr. 63105
Hertel, Mrs. Ronald C., 122 Frontenac Forest 63131
Hicks, Mrs. Robert S., 11155 Conway Rd. Forest 63131
Hilbert, Mrs. Paul H., 5701 Pernod Ave. 63139
Hogan, Mrs. Patrick C., 8935 Westhaven Ct. 63126
Hollo, Mrs. Vencel W., 5925 Lindell 63112
Hummel, Mrs. William C., 13354 Thornhill Dr. 63131
Hutchinson, Mrs. William B., 2233 Cleek St. 63131
Jensen, Mrs. Joshua E., 3 Brazillian Ct. 63124
Jones, Mrs. Otey S., 2010 Longfellow Blvd. 63104
Jones, Mrs. Vincent L., 123 N. Forsyth 63105
Jost, Mrs. Charles A., 2 Bellerive Acres 63121
Karandjeft, Mrs. A. D., 48 Lake Forest 63117
Karl, Mrs. Michael M., 14 Thorndell 63117
Kelley, Mrs. Robert W., 5371 Waterman Ave. 63112
Kendig, Mrs. John H., 841 Rolfe Dr. 63122
King, Mrs. Samuel J., 5000 S. Broadway 63111
Klein, Mrs. Harry A., 2 Sunswept Dr. 63141
Klein, Mrs. Saul J., 7507 Parkdale 63105
Klippel, Mrs. Bernhardt W., 52 Fair Oaks 63124
Kloecker, Mrs. Richard J., 1022 Hampton Pk. 63117
Kluegel, Mrs. William A., 2845 Gravois Ave. 63118
Klym, Mrs. Nicholas, 1505 Doris Dr. 63138
Kneal, Mrs. Ellsworth, 725 S. Skinner 63105
Knight, Mrs. Franklin P., 11465 Fairlane Ct. 63136
Knight, Mrs. William A., Jr., 12 Braircliff 63124
Komanetsky, Mrs. William, 7447 Sharp Ave. 63116
Koon, Mrs. Bernard T., 2623 Gurney Ct. 63110
Kountz, Mrs. William B., 2629 Gurney Ct. 63110
Koutsoumpas, Mrs. William, 3024 Hawthorne Blvd. 63104
Kowert, Mrs. Edward H., 330 Planthurst Dr. 63119
Krojanker, Mrs. Rolf J., 1060 Purdue 63130
Kuhlman, Mrs. Robert E., 7416 Wellington Way 63105
Ladd, Mrs, Charles B., 41 Fox Meadows 63127
Langsdorf, Mrs. Herbert S., 3681 Alberta Ave. 63116
Larocca, Mrs. Felix E. F., 7945A Delmar Blvd. 63130
Laux, Mrs. France A., 287 Ridge Trail Dr., 63017
Lembeck, Mrs. Joseph A., 4103 Flora Pl. 63110
Lerwick, Mrs. E. R., 40 Portland Pl. 63108
Lewis, Mrs. J. Eugene, Jr., 7129 Kingsbury Ave. 63130
Lohr, Mrs. Curtis H., 300 S. Grand 63103
Lottes, Mrs. J. Otto, 1028 Winwood Dr. 63124
Lugo, Mrs. Samuel, 9890 Wild Deer 63124
MacDonald, Mrs. William O., 63 Briarcliff 63124
Machek, Mrs. Otaker, 16 Carswold 63105
Macnish, Mrs. James M., 229 Bompart 63119
Maher, Mrs. Thomas F., Jr., 20 Willow Oak La. 63122
Malles, Mrs. A. Conrad, 69 Wood Oaks Trail 63124
Martin, Mrs. Raymond T., 3468 Longfellow Blvd. 63104
Mathae, Mrs. George H., 3167 S. Grand Blvd. 63118
McMahon, Mrs. Alphonse, 5 Covington Meadow 63132
Meirink, Mrs. Thomas P., 24 Van Mark Way 63144
Mendonsa, Mrs. Lawrence E., 138 Ridgecrest Dr., Chesterfield 63017
Merenda, Mrs. Sam J., 45 Berry Rd. Pk. 63122
Merklin, Mrs. Anton L., 5926 Crane Cir. 63109
Mestres, Mrs. Hugh M., 12329 Federal Rd. 63131
Meyerhardt, Mrs. Milton H., 665 S. Skinker, 63105
Miller, Mrs. J. P., Jr., 5501 Lindell 63112
Miskovsky, Mrs. Emil F., 12315 Promenade Ln. 63141
Montgomery, Mrs. Austin F., 18 Southcote Rd. 63144
Morfit, Mrs. John C., 7627 Wydown Blvd. 63105
Moskop, Mrs. Peter G., 1105 Holly Hills Ave. 63111
Mowrey, Mrs. William O., 7071 Lindell 63130
Muckerman, Mrs. Richard I. C., 63 Lake Forest 63117
Mueller, Mrs. Wilbur K., 1160 S. McKnight Rd. 63117
Muether, Mrs. R. O., 19 Country Life Acres 63131
Murphy, Mrs. James Patrick, 27 Berkshire 63117
Neilson, Mrs. Arthur W., 6349 Alexander Dr. 63105
Nemec, Mrs. Stanley S., 2870 S. Lindbergh 63131
Nester, Mrs. Charles A., 3921 Federer Pl. 63116
Neun, Mrs. William F., 5862 Delor 63109
Newton, Mrs. William T., 844 Brookside Dr. 63122
Nomura, Mrs. Roy, 845 Longacre Dr. 63132
Nye, Mrs. Robert S., 4901 Broadway S. 63111
Obermeyer, Mrs. Charles G., 3957 Holly Hills Blvd. 63116
O'Neal, Mrs. Lawrence W.. 1 Nassau 63124
Oppenheimer, Mrs. Henry E., 9444 Old Bonhomme Rd. 63132
O'Reilly, Mrs. D. Elliott, 9054 Clayton Rd. 63117
Orenstein, Mrs. Joseph M., 417 Jackson Ave. North 63130
O'Sullivan, Mrs. George A., 6181 Lindell 63112
Parashak, Mrs. Paul M., 7344 Whitehaven Dr. 63123
Parsons, Mrs. Richard P., 649 Mosley Rd. 63141
Patrick, Mrs. Roman L., 13109 Four Poster Ct. 63141
Peden, Mrs. Joseph C., Jr., 51 Fair Oaks 63124
Peeler, Mrs. J. O., 10000 Knoll Crest Ct. 63136
Pernoud, Mrs. Flavius G., Jr., 841 Audubon Dr. 63105
Porporis, Mrs. Arthur A., 824 Renderer Dr. 63122
Powell, Mrs. Earl A., 78 Lake Forest 63117
Powers, Mrs. Pierce W., 4 Crestwood Dr. 63105
Pyne, Mrs. Herbert S., 5320 Mardel 63109
Rainey, Mrs. Robert, 5165 Lindell Blvd. 63108
Ramsey, Mrs. Robert H., 10 Lake Pembroke Dr. 63135
Raybuck, Mrs. H. E., Jr., 22 Rolling Rock Ct. 63124
Reich, Mrs. Harry A., 5100 Tamm Ave. 63109
Reilly, Mrs. Leo J., 898 Alanson Dr. 63132
Rendleman, Mrs. George F., 532 Midvale 63130
Rendleman, Mrs. George R., Jr., 2 Vista Brook 63124
Repetto, Mrs. Albert M., 66 Berry Road Pk. 63122
Riordan, Mrs. Lawrence M., 410 N. Newstead Ave. 63108
Ritter, Mrs. Hubert A., 26 Briarcliff 63124
Rodriguez, Mrs. U. R., 12217 Blackhall Dr. 63128
Roper, Mrs. Charles L., 46 York Dr. 63144
Roy, Mrs. Joseph A., 55 Berkshire 63117
Royce, Mrs. Robert K., 766 High Hampton Rd. 63124
Ryan, Mrs. Robert E., 1 West Point Lane 63131
Sanders, Mrs. Robert D., 4214 Flora Pl. 63110
Sante, Mrs. Leroy, 308 Orchard Ave. 63119
Sauer, Mrs. William Nicholas, 12076 Tangletree Dr. 63141
Schaper, Mrs. Ernest H., 1473 Reauville Dr. 63122
Scheer, Mrs. George E., 53 Berkshire 63117
Schmidt, Mrs. Edwin H., 10240 Schuessler Rd. 63128
Schweiss, Mrs. John F., 1414 Westwind Dr. 63131
Sciortino, Mrs. Gaspare, 1019 Laval Dr. 63132
Scott, Mrs. Elwin Powers, 12718 Post Oak Rd. 63131
Sevastianos, Mrs. Aristides, 52 E. Ladue Estates Dr., Creve Coeur 63141
Sexton, Mrs. Daniel L., 14 Crestwood Dr. 63105
Sherwin, Mrs. Charles F., Lonedell 63060

Sherwin, Mrs. Charles S., 3971 Flora Pl. 63110
Simon, Mrs. Jerome I., 12 Westridge Ct. 63124
Smith, Mrs. Benjamin F., 104 Aberdeen Pl. 63105
Smith, Mrs. Garland F., 1115 Hampton Park Dr. 63117
Smith, Mrs. Herbert P., 9245 Sappington Rd. 63126
Smith, Mrs. Hugh R., 8836 Rock Forest Dr. 63123
Smolik, Mrs. Edmund A., 59 Middlesex Dr. 63144
Spoeneman, Mrs. Walter H., 18 Biritz Ct. 63137
Stephens, Mrs. LeRoy, Sylvester 63119
Stindel, Mrs. Charles E., 341 Violet Lane 63119
Stone, Mrs. Charles A., 410 N. Newstead, Apt. 155 63108
Strominger, Mrs Donald B., 701 Yale Ave. 63130
Stroud, Mrs. C. Malone, 6232 McPherson 63130
Sudholt, Mrs. Alfred F., Jr., 13398 Conway Rd., Normandy 63141
Sullivan, Mrs Clement J., 7740 Mohawk Dr. 63105
Sweet, Mrs. Herbert C., 3 St. James Ct. 63119
Taveras, Mrs. Juan M., 17 Carrswold 63105
Thale, Mrs. Thomas, 351 Meadow Brook, Ballwin 63011
Thompson, Mrs. J. William, 92 Lake Forest 63117
Thym, Mrs. Henry P., 818 S. Brentwood Blvd., Clayton 63105
Tjoflat, Mrs. Oliver E., 252 Woodbourne 63105
Tremain, Mrs. Irl G., 4254 Flora Pl. 63110
Twedell, Mrs. Donald, 5341 Bermuda Rd. 63121
Uhlemeyer, Mrs. Henry A., Sr., 641 A. Geoffry La. 63132
Vandover, Mrs. John T., 3 Grantwood Lane 63123
Vest, Mrs. James C., 2800 Stonington 63131
Virant, Mrs. John A., 119 S. Spoede Rd. 63141
Vitt, Mrs. Alvin E., 9951 Warshire 63105
Von Kaenel, Mrs. Joseph E., 551 Barnes Rd. 63124
Wacker, Mrs. Leo L., 9115 Clydesdale Dr. 63126
Walters, Mrs. Harold E., 9 Huntleigh Woods 63131
Wegner, Mrs. Carl R., 7401 Wellington Ave. 63130
Weinel, Mrs. Francis G., 333 Oakwood Ave. 63119
Weinsberg, Mrs. William C., 6220 Helm 63109
Weir, Mrs. Don C., 625 Sherwood Dr. 63119
Welsh, Mrs. Laurence C., 103 Old Watson Rd. 63119
Wennerman, Mrs. Sam F., 501 Warren 63130
Werner, Mrs. William A., 6015 Childress Ave. 63109
Wiegand, Mrs. Herbert C., 40 Overhill Dr. 63124
Wilucki, Mrs. Melvin R., 6455 Westway Rd. 63109
Winterling, Mrs. Charles A., 9371 West Pine 63144
Witt, Mrs. Clyde M., 11 Deer Creek Woods 63124
Wittgen, Mrs. Edward M., 8901 Rock Forest Dr. 63123
Wood, Mrs. V. Visscher, 8015 Delmar 63130
Woodbridge, Mrs. John H., 4527 Maryland Ave. 63108
Wotawa, Mrs. William J., 3804 Wilmington 63116
Young, Mrs. H. McClure, 245 Union Blvd. 63108
Zeitler, Mrs. William T., 152 Timbercrest Rd. 63122
Zink, Mrs. Oscar C., 9 The Orchards 63131

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Alex, Mrs. Morris, 18 Crosswinds 63132
Aronson, Mrs. Abraham, 11 Conway Lane 63124
Ayata, Mrs. Sedat, 2 Bon Aire, Olivette 63132
Bagby, Mrs. J. W., 7 Country Life Acres 63131
Bailey, Mrs. Wm. Harold, 9157 E. Milton Ave. 63114
Bergmann, Mrs. John F., 550 Bonhomme Woods 63132
Berndsen, Mrs. Gerard H., 12933 Topping Estates 63131
Berwald, Mrs. Irvin I., 747 Old Bonhomme Rd., University City 63130
Boles, Mrs. C. Read, 9307 Old Bonhomme Rd. 63132
Cacioppo, Mrs. Joseph E., 1809 New Jamestown Rd. 63138
Carlson, Mrs. Arne E., 89 Pebblebrook La., Creve Coeur 63141
Carmona, Mrs. Gilberte, 8210 Montreal Dr., University City 63132
Catanzaro, Mrs. R. E., 24 Foxboro Rd. 63124
Chinsky, Mrs. Murray, 7200 Colgate Ave., University City 63130
Coldwater, Mrs. Kenneth, 1520 Ridgewood Dr. 63126
Costrino, Mrs. John J., 922 Jeanerette Dr., University City 63130
Costrino, Mrs. Joseph A., 12567 Conway Rd., Creve Coeur 63141
Cowdry, Mrs. Edmund, 220 Woodridge, Kirkwood 63122
Davidson, Mrs. Morris, 128 Frontenac Forest 63131
Davis, Mrs. Edgar W., 49 Woodcrest Dr. 63124
Denny, Mrs. Robert B., 7827 Delmar Blvd., University City 63130
Deyton, Mrs. John W., 659 Fairview Ave., Webster Groves 63119
Diehr, Mrs. Maurice A., 28 Dromara Rd., Ladue 63124
Dill, Mrs. Foster A., 1551 Bellevue Ave., Richmond Heights 63117
Doisy, Mrs. Robert A., 103 Edwin Ave., Glendale 63122
Dowd, Mrs. James F., 30 Brentmoor Park, Clayton 63105
Dumonceaix, Mrs. Leonard, 301 Grascony Ave. 63122
Dyer, Mrs. Clyde P., Route 2, Box 360, Carmel, California 93921
Efron, Mrs. Joseph, 30 Ladue Estates Dr. 63141
Eller, Mrs. C. Howe, 1408 Fawnvalley Dr. 63131
Ellison, Mrs. Leroy E., 7346 Myrtle Ave., Maplewood 63143
Emerson, Mrs. Reynolds L., 618 S. Rock Hill Rd., Webster Groves 63119
Estes, Mrs. Jack, 57 S. Dellwood, Dellwood 63135
Fairshter, Mrs. Alex E., 9 Blackpool Lane 63132
Ferrara, Mrs. John P., 31 Bellerive Acres, Normandy 63121
Finkel, Mrs. Barney W., 7210 Bristol Dr., Normandy 63121
Fletes, Mrs. James W., 5601 Lindell Blvd. 63112
Forsman, Mrs. Waldo W., 4128 S. Lindbergh Blvd. 63127
Fox, Mrs. Leon J., 903 S. Warson Rd. 63124
Freiheit, Mrs. Harold J., 3 Devondale La. 63131
Freidman, Mrs. Ira J., 33 Ridgemoor, Clayton 63105
Fuchs, Mrs. George J., Route 2, Barnett 65011
Gall, Mrs. Ira G., 8989 Moydalgan 63124
Gearhart, Mrs. Wilbur H., 25 Graeson Ct. 63141
Gitt, Mrs. Joseph J., 1025 S. Warson Rd., Ladue 63124
Goodman, Mrs. Nathaniel, 9 Scarsdale La., Richmond Heights 63117
Goodrich, Mrs. Harold A., 52 S. Rock Hill Rd., Webster Groves 63119
Hale, Mrs. T. H., 245 Union Blvd. 63108
Hamilton, Mrs. Caldwell K., 11317 Mosley Lane, Creve Coeur 63141
Hampton, Mrs. Oscar P., 8153 Stanford Ct., University City 63130
Harwell, Mrs. J. Larry, 6914 Kingsbury Blvd., St. Louis 63130
Hayward, Mrs. John D., 221 Clay Ave. S., Kirkwood 63122
Hickey, Mrs. Glenn, 12 St. Genevieve Ct., Florissant 63031
Hoard, Mrs. Joseph W., 129 E. Kirkham Ave., Webster Groves 63119
Hobbs, Mrs. John E., 25 Woodcrest Dr., St. Louis 63124
Hogancamp, Mrs. Charles E., 5 Huntleigh Manor 63131
Holscher, Mrs. Edward C., 234 W. Jackson Rd., Webster Groves 63119
Howe, Mrs. Louis F., 1136 Ridgelynn Dr. 63124
Hughes, Mrs. Robert G., 41 Chaminade Dr., Creve Coeur 63141
Izmirlian, Mrs. Grant, 525 Fairview Ave.,
Jacobs, Mrs. Frederick, 7308 Winchester Dr., Normandy 63121
Kamuran, Mrs. Ozgoncu, 11931 Spruce Haven Dr. 63141
Kendis, Mrs. Joseph B., 19 Warson Terr., Clayton 63124
Kilker, Mrs. Clarence H., 7231 Winchester Dr., Normandy 63121
Kimelman, Mrs. Nathan, 21 Granada Way 63124
King, Mrs. E. E., 2915 Bellerive Dr., Normandy 63121
Klippel, Mrs. Allen, 7112 Wydown Blvd., Clayton 63105
Koch, Mrs. Robert E., 10036 Conway Rd. 63124
Kopp, Mrs. Jules H., 23 Arbor Terr. 63132
Krieger, Mrs. John Louis, 28 Berry Rd. Park 63122
Lansche, Mrs. W. Edward, 809 Rampart Dr. 63122
Leslie, Mrs. C. H., 1065 Haversham 63131
Lipschitz, Mrs. Ervin, 30 Kentom Pl. 63132
Lord, Mrs. Richard, 8 Mayfair Rd. 63124
Luehrs, Mrs. Robert O., 900 S. Hanley Rd., Apt. 2A, Clayton 63105
Lund, Mrs. Herluf G., 58 Portland Dr., Frontenac 63131
Luther, Mrs. George A., 112 Wildwood Lane, Kirkwood 63122
Magidson, Mrs. S. Joseph, 615 Forest Ct., Clayton 63105
Magness, Mrs. Guy N., 7727 Blackberry La., University City 63130
Marcus, Mrs. M. D., 8227 Balson Ave., University City 63130
Mayer, Mrs. Robert A., 7509 Wayne Ave., University City 63130
McLean, Mrs. Royal C., 520 W. Jewel, Kirkwood 63122
Mezera, Mrs. Raymond A., 7345 Whitehaven Dr., Affton 63133
Miles, Mrs. Paul W., 15 Ridge Creek Rd., Creve Coeur 63141
Miller, Mrs. Charles, Jr., 206 Fillmore, Kirkwood 63122
Miller, Mrs. Geoffrey, 42 Midpark 63122
Molden, Mrs. Charles A., 36 Bellerive Acres, Normandy 63121
Montes, Mrs. Arthuro, 8700 Riverview Blvd. 63147
Moore, Mrs. Harry G., 17 Westmoreland Pl. 63108
Moore, Mrs. William E., 7277 N. Roland Blvd., Normandy 63121
Mueller, Mrs. Robert J., 40 Huntleigh Woods 63131
Nakada, Mrs. James R., 2 Huntleigh Downs 63131
Nelson, Mrs. J. Roger, 501 Fox Ridge Rd., Frontenac 63131
O'Connell, Mrs. John J.. 1937 O'Connell Ave., Overland 63114
O'Keefe, Mrs. Joseph D., 634 Sherwood Dr. 63119
Olin, Mrs. Robert H., 1044 Willowbrook 63141
Osborn, Mrs. Donald O., 15 Wingfield 63122
Ott, Mrs. Harold J., 29 Bopp Rd. 63131
Ottensmeyer, Mrs. Charles D., 12 Orange Hills, Chesterfield 63017
Pennoyer, Mrs. James, 117 Plant Ave., Webster Groves 63119
Phillips, Mrs. Hanford, 215 Graybridge Rd., Clayton 63105
Probst, Mrs. Raymond E., 1210 Carol Ann, Glendale 63122
Ragland, Mrs. John E., 624 Kehrs Mill Rd., Ballwin 63011
Rao, Mrs. Carlo, 18 Ladue Estates Dr. 63141
Redington, Mrs. James C., Jr., 1 Tuscany Pk. 63105
Reiches, Mrs. Aaron J., 11 Brazillian Ct. 63124

Reilly, Mrs. Pierce J., 825 S. Hanley Rd., Clayton 63105
Roberts, Mrs. Harold K., 434 S. Hanley Rd., Clayton 63105
Robertson, Mrs. Frank G., 642 N. Forest, Webster Groves 63119
Roblee, Mrs. Melvin A., 5 Kingston Manor 63124
Rogers, Mrs. John A., 7550 Delmar, University City 63130
Rolufs, Mrs. Loyd S., 472 Gabriel Dr., Kirkwood 63122
Roufa, Mrs. Joseph, 143 Emerald Green Ct. 63141
Rubenstein, Mrs. Melvin, 8034 Cornell Ave., University City 63130
Rubin, Mrs. Robert, 45 Pricewoods La. 63132
Ruhling, Mrs. Rudy, 6 Webster Knolls, Webster Groves 63119
Schattyn, Mrs. J. Martyn, 9 Huntleigh Downs 63131
Schwartz, Mrs. Melvin M., 61 Lake Forest, Richmond Heights 63117
Shepherd, Mrs. Charles T., 10 Covington Meadows 63132
Simril, Mrs. Wayne A., 21 Somerset Downs 63124
Sisk, Mrs. James C., 146 Frontenac Forest 63131
Speno, Mrs. Angelo A., 11815 Point Oak 63131
Staehle, Mrs. Melvin E., 7325 Ravinia Dr., Normandy 63121
Steiner, Mrs. A. J., 8009 Gannon Ave., University City 63130
Sutter, Mrs. Richard A., 7215 Greenway Ave., University City 63130
Tashma, Mrs. Sigmund, 904 Dalkeith 63132
Teiber, Mrs. Fred W., 38 Fair Oaks 63124
Thiele, Mrs. Belmont R., 10201 Thornwood Dr., Ladue 63124
Tobias, Mrs. Norman, 700 S. Meramac, Clayton 63105
Tremain, Mrs. E. E., 2901 Big Bend Rd., Maplewood 63143
Tsifutis, Mrs. Argie, 8631 Rosalie Ave., Brentwood 63144
Valach, Mrs. Frank J., 4 Nassau Cir., Creve Coeur 63141
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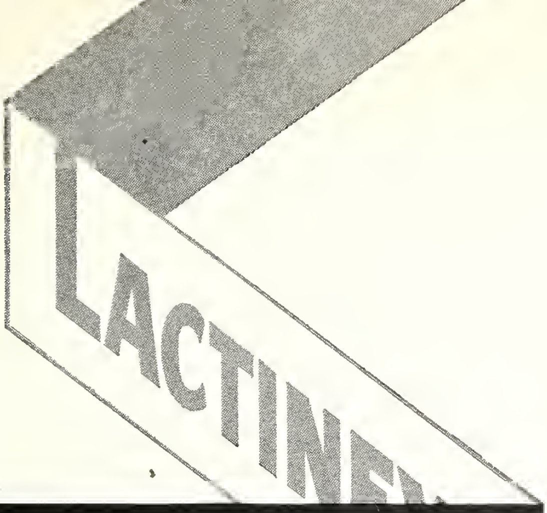

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Delegates Report

Dr. Rouse Stresses Citizenship Duties at AMA Annual Convention

"Looking Ahead" at both the problems and the opportunities facing the medical profession was the theme of the American Medical Association's 117th Annual Convention in San Francisco on June 16-20. The pace was set by President Milford O. Rouse in his final report to the House of Delegates at the opening session. Doctor Rouse urged the House "to consider seriously the lessons of the past" as the AMA faces the "significant challenges of the future." He also urged physicians and their wives to become "active, participating citizens" in their communities, including the realm of political activity, and called for "enthusiastic support" of AMPAC to help move the federal government toward "a more moderate political philosophy."

Among the major subjects acted upon by the 117th House of Delegates were health care costs and financing, legislation and relationship with government, the elimination of discrimination, manpower, infant mortality, transplantation and public relations.

The MSMA was officially represented at the Annual Convention by AMA Delegates Arthur W. Neilson, Hector W. Benoit, Jr., Stanley S. Peterson and J. Loren Washburn; Alternate Delegates Robert Kelley, Thompson E. Potter and Hugh E. Stephenson, Jr.; President David N. Kerr; and President-Elect Doyle C. McCraw. Doctor Neilson served as Chairman of Reference Committee "D" and Doctor Benoit served as a member of the Tellers Committee.

A number of other MSMA officers and members were among the 13,834 physicians who registered for the meeting. Wendell G. Scott, St. Louis, served as official delegate for the Section on Radiology and was a member of Reference Committee "A."

Congressman Durward G. Hall, President of the Conference of Presidents and Other Officers of State Medical Associations, presided at the Conference on Sunday morning, June 16.

Three members of the Woman's Auxiliary to the MSMA were honored by appointment or election to offices in the AMA Woman's Auxiliary. Mrs. Wallace R. Stacey, Independence, was elected a national director; Mrs. John M. Williams, Liberty, was appointed North Central Region Safety-Disaster Preparedness Chairman; and Mrs. Herbert L. Mantz, Kansas City, was appointed to her fourth term as parliamentarian.

Of the 84 resolutions introduced by state medical associations, two were sponsored by the MSMA. House action on the Missouri resolutions was as follows:

> *Resolution # 29 opposing Federal Compulsory and Coercive Promotion of Group and Hospital Practice of Medicine*—The Reference Committee recommended a substitute resolution embodying the basic principles of the Missouri resolution combined with two similar resolutions. The substitute resolution was adopted as follows:
>
> "*Resolved*, That the AMA continue to espouse the private, fee-for-service practice of medicine; and be it further resolved that the AMA strongly disapproves of the provision of funds by the federal government for subsidizing any one form of organization of medical practice."
>
> *Resolution # 30 congratulating the Council on Medical Service of the AMA* upon the program of the Second National Congress of Socio-Economics of Health Care was adopted by the House of Delegates.

The AMA proposed a major step toward helping the needy to get improved health care when the House adopted a policy that calls for the federal government to give graduated income tax credits for premiums paid for health insurance. The house adopted reports from the Board of Trustee's Committee on Health Care Financing and the Council on Medical Service on financing health care for persons under age 65.

No report from the Board of Trustees was given to the House of Delegates concerning the request of the Missouri State Medical Association's Ad Hoc Committee on Medical Care Costs which had, on two occasions, presented a request for assistance in fundng a research study on the cost of Medical care in Missouri, which would have national significance.

It is assumed, however, that the AMA Board of Trustees will give full consideration to the Missouri State Medical Association's proposal for a study of the costs of medical care in Missouri along with other proposals which they are now considering and studying on costs of health care in the United States.

Even though this matter was not officially before the House, Dr. Hector W. Benoit, Jr. was given an opportunity to explain the Missouri proposed project before Reference Committee "F." In its report to the House, this Committee made mention of the Missouri proposal.

The House adopted a resolution calling for the AMA to "study further the principle of financing health care for the 'medically needy' by health insurance mechanism and take appropriate steps in an effort to establish this mechanism in such financing."

In the area of reducing costs to patients, the House adopted a resolution that "the AMA endorse the principle of voluntary health insurance coverage for outpatient x-ray and laboratory services acceptable to the hospital and its medical staff wherever performed prior to a scheduled hospital admission": and adopted another resolution that "all insurance companies and fiscal intermediaries" adopt and authorize the use of standard forms in conjunction with a single hospital admission to save physicians' time and expense.

One resolution which was adopted urged all state and local societies "to act swiftly and firmly in all instances of known exploitation and excessive charges for health care that may occur in their jurisdictions."

Another resolution referred to the Board called for a program by the AMA of "defining, explaining and reporting the many categories of health care expenditures; analyzing health care cost and expenditure data developed and reported by other sources; and providing . . . information on health care costs which can be used to place the true costs of medical care in proper perspective with the public."

Regarding comprehensive health planning, the House adopted a Board report recommending that "the House of Delegates urge those states which have not held informational conferences on the subject to conduct orientation conferences in order to reach a greater number of leaders at the local level."

Also adopted was a Council on Medical Service report on comprehensive health planning which recommends that "The AMA and the constituent and component societies give unstinted, diligent attention to the process of comprehensive health planning which, at present, places priority on local initiative and decision-making and that the AMA at all levels endeavor to assure, through all appropriate means, a system of checks and balances so that state and area planning agencies are not given authority to subordinate local planning efforts and dictate local decisions on health planning."

Two resolutions concerning comprehensive planning were combined to state the House's will that "medical societies encourage the organization of local health planning councils without the assistance of HEW grants."

In the interest of gaining understanding of medicine's problems through the nation's press, the House endorsed the move to put medicine in the forefront through an active campaign to take a "positive posture" and urged all state and county medical societies to work with the press for a better understanding of medicine.

The House adopted a report by the Board of Trustees declaring the need for "prompt issuance of authoritative statements." The Board's report noted the need to recognize the prominence and complexity of medicine and the fact that medicine is a constant subject of news and comment which cannot be subjected to a later response. The House also approved a resolution underlining the need for a strong "counterattack" to criticism of the medical profession and reports of "soaring" medical costs.

State medical societies could be censured or ousted from the AMA for practice of racial discrimination under terms of a proposed bylaws amendment endorsed by the House. The House approved a resolution calling for preparation of a bylaws amendment to this effect. The amendment is to be submitted to the House for final action during the AMA Clinical Convention in December.

The House also acted at the Annual Convention to reaffirm AMA policy against racial discrimination.

Establishment of a Council on Health Manpower was approved by the House of Delegates. Composed both of physicians and allied health professions manpower, the new council will have the combined responsibilities and functions of the Board's Committee on Health Manpower and the Council on Allied Health Professions and Services authorized by the House at the 1967 Clinical Session.

Efforts to obtain additional financial support for medical schools from "all available sources" was approved by the House in its endorsement of a recommendation from the AMA Board of Trustees. A board report called attention to a joint statement of the AMA and the Association of American Medical Colleges which emphasized the need for more physicians and called for the expansion of medical school enrollments to a level permitting admission of all qualified applicants.

Fourteen recommendations aimed at further reducing the infant mortality rate in the United States were approved by the House. The action was taken on the basis of a report submitted by the Board of Trustees and on information supplied by the AMA's Committee on Maternal and Child Welfare of the Council on Medical Service.

The report urged that, where feasible, "perinatal death studies be conducted on a communitywide basis or by a hospital staff or medical group for the purpose of reducing infant mortality and providing educational programs."

Ethical guidelines concerning organ transplants were approved by the House of Delegates. A companion resolution calling for the Board of Trustees to appoint a national ad hoc committee to study and develop moral, ethical, religious and legal guidelines for organ transplantation, however, was rejected.

One of the major guidelines stated that "When a vital, single organ is to be transplanted, the death of the donor shall have been determined by at least one physician other than the recipient's physician. Death shall be determined by the clinical judgment of the physician. In making this determination, the ethical physician will use all available, currently accepted scientific tests."

The House again urged "that adequate representation of the medical staff on the voting membership of the hospital's governing body is the most effective mechanism for assuring a working communication, provided that the physicians serving on the governing board be nominated by the medical staff of the hospital."

Regarding use of paramedical personnel, the House recommended to the JCAH, AHA and its state and local chapters and to hospitals and other related facilities "that the practice of medicine . . . be preserved as the responsibility of the physician and that paramedical personnel not be placed in the position of practicing medicine whether by consent, design or contract" and recommended "to the state and county medical societies and hospital staffs that they call attention to the dangers of contractural agreements which remove the services of paramedical personnel from the supervision of the physician."

In his first report to the House of Delegates as the new President of the AMA, Dwight L. Wilbur urged his colleagues to focus on directing the course of the future for health care of our Country and its people and said this could be done by "planning . . . by being prepared . . . by turning unexpected developments in the direction of progress . . . by fostering high quality of medical care along with broadened availability . . . and by invigorating the growth of the profession and by activating its young members . . . and passing on to them a bright and unflickering torch of devotion to human services." He added, "We must exercise cooperative leadership of all those in the health care field—government, industry, labor and all segments of the public."

Dr. Gerald D. Dorman of New York City, a member of the AMA's Board of Trustees since 1960 and the 1966 Secretary-Treasurer of the AMA and Secretary of the Board of Trustees, was unanimously chosen President-Elect. He will be installed as the Association's 124th President at the Annual Convention in New York in July, 1969.

Further details of the 117th Annual Convention may be found in the June 24 and July 1 issues of *The AMA News*.

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The Council Reports

The MSMA Council met at Mai Tai Resort, Osage Beach, on May 11-12, 1968 with Joseph L. Fisher, M.D., St. Joseph, Chairman, presiding. Those present were Drs. Fisher, Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Howard J. McAlhany, Springfield; E. A. Stricker, St. James; David N. Kerr, Clayton; Doyle C. McCraw, Bolivar; John I. Matthews, Jefferson City; Max S. Franklin, St. Louis; Hector W. Benoit, Jr., Kansas City; Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; Arthur W. Neilson, St. Louis; William D. Mayer, Columbia; John A. Buesseller, Columbia. Messrs. John W. Noble, Kennett; Gordon Weiss, Jefferson City; Gary Schnedler, Springfield; Allen D. Smith, Kansas City; Edgar Mothershead, St. Louis County; Hollister Smith, T. R. O'Brien, Lemoine Skinner, St. Louis; Tom P. Fox, Don Brummall, Bob Carroll and Ray McIntyre, Jefferson City. (Sunday) Drs. Vernon E. Wilson, Columbia; Jack Sanders, Jefferson City.

Dr. Fisher opened the meeting and welcomed Dr. Howard McAlhany of Springfield, the new Councilor from the 8th District.

Dr. Fisher called attention to the Council minutes of March 27 and March 30, 1968 and requested approval. Attention was called to a slight error in the minutes of March 27, page 4, paragraph 5, line 3, which was corrected by changing the word "enjoined" to "joined." On motion of Dr. Wray, duly seconded, the minutes of the March 27 meeting were approved as corrected, and the minutes of the March 30 meeting approved as written. The minutes of the Council meeting of March 31, 1968, were also approved as written.

Dr. Fisher called attention to a request from Dr. Kenneth Glover, Mt. Vernon, to be relieved of the Chairmanship of the Committee on Medicine and Religion. Dr. Glover stated that he would be willing to continue as a member of the Committee. It was pointed out that this is a Special Committee of the Council. On motion of Dr. Wray, duly seconded, the following members were appointed to the Committee on Medicine and Religion for a term of one year: Drs. Troy O. Morgan, Jr., Albany, Chairman; Kenneth Glover, Mt. Vernon; Robert M. Meyers, Kansas City; Paul R. Whitener, St. Louis County; Douglas A. Ries, St. Louis; and Morris Alex, St. Louis.

Dr. Fisher presented a letter from Mrs. E. F. Butler, St. Joseph, President of the Woman's Auxiliary, requesting that Dr. Walter T. Gunn, St. Louis, be appointed to serve on the Auxiliary Advisory Council with Drs. Benoit and Fisher. On motion of Dr. Franklin, duly seconded, the Council approved the appointment of Dr. Gunn to the Advisory Council of the Woman's Auxiliary.

Mr. McIntyre introduced Mr. Bob Carroll, the new employe of the State Medical Association Headquarters Office, who will take over his duties on May 15, 1968.

Mr. McIntyre read a letter of appreciation from the Student AMA for the donation of $100 for sustaining membership in that organization for 1968. He also called attention to a request from the Missouri University Chapter of SAMA seeking assistance in defraying the expenses of sending a delegate and alternate delegate to the national SAMA meeting. He explained this had been done for a number of years. On motion of Dr. Kerr, duly seconded, a donation was approved.

Mr. O'Brien reported that as of Jan. 1, 1968, the State Association no longer has a contract with the Government regarding the Dependents' Medical Care program which is now known as the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). CHAMPUS now has the contract only with the carrier, Blue Shield of St. Louis. He stated that physician payments were based on the usual, customary and reasonable basis. He mentioned that the program has almost doubled that of last year and that, as of April 30, 1967, 2,294 cases were processed through the Blue Shield office and approximately $185,000 had been paid. This year (1968) so far, 4,968 cases were processed with payments amounting to $376,000 which is approximately double, not only in number of cases, but, also, in money being paid. He stated that this was due to the increased number of active duty personnel and also, Retired Personnel using the program.

Mr. O'Brien also reported that he had met with a representative of the Eggert-Carroll-Schroeder Agency of St. Louis, who with the Altman-Singleton Company of Kansas City, handles the Major Hospital Group Insurance and Nurse Expense Program for Missouri State Medical Association. He explained that the Commercial Insurance Company of Newark, N. J., the carrier for the group contracts (one for disability for physicians in effect since about 1942 and the other one for major hospital and nurse expense since about 1960) had studied the experiences, not only for the medical group, but also for the dental group, engineers, and others and has decided changes would have to be made because of the increased cost, particularly in hospitalization. It was reported that several changes are contemplated in this program, one being that since Medicare became effective, the upper age limit should be lowered from 70 to 65, when Medicare would take over. He stated the Company would prepare a summary of total premiums and total expenses since the latter MSMA program started and will present the entire state picture and what it will mean to the members. However, it was noted, changes would not be made in the program before next spring.

Mr. McIntyre reported that it has been the custom in the past for MSMA to present an Honors Graduate Award and a $100 U. S. Savings Bond to the outstanding medical graduate from each of the three medical schools in Missouri. He mentioned that two of the names had been submitted, one from St. Louis University and one from the University of Missouri. He said, however, that we are still waiting for the name from Washington University. Bonds and the Awards will be furnished to the Deans of the Medical Schools for this presentation at the appropriate time.

Dr. Franklin presented a Financial Report and stated that most of the members have paid their 1968 dues. He mentioned that suggested investments for the regular investment account had been received from the Trust Agency and requested members of the Finance Committee to meet with him later in the day to help make a decision on these suggestions. On motion of Dr. Kerr, duly seconded, the Treasurer's Report was accepted.

Dr. Fisher read a newspaper article which stated that a $44,000 Federal Grant had been approved for the University of Missouri Medical School for ambulance personnel training and study of emergency services. It was pointed out that the article was misleading and that many physicians over the state might get the wrong impression regarding admission policies at the Medical Center. It also was noted that many mortuaries have discontinued emergency ambulance service in rural areas because of the strict requirements of the new Highway Safety Act. Dr. Cope reported that Boone County Hospital had taken over the ambulance service in the Columbia area and that the service also was being subsidized by the Boone County Court. Dean William Mayer stated that the University of Missouri had been asked to help cover some of this expense and had stated the University would be glad to provide assistance. He also mentioned that there would be no change in the present ambulance set-up because of the training program and that patients would continue to be taken to the hospital of their choice or, in cases of emergency, to the closest available hospital.

A letter of explanation was sent to the MSMA office from the University of Missouri Medical Center which clarified the misstatements in the newspaper article. It also explained a letter had been sent to the writer of the article as well.

Dr. Kerr reported that the Executive Committee of MSMA met with representatives of the Missouri Division of Welfare on April 3, 1968, in Jefferson City to discuss the letter under date of March 29, 1968 from H. O. Loyd, M.D., Medical Director and J. Paul Leslie, Sr., M.D., Medical Consultant, Missouri Division of Welfare on the subject of injectable medications in the Medicaid program. The letter was sent to all Missouri physicians participating in the Title XIX program. Dr. Kerr stated that the letter had caused consderable concern on the part of members over the state and that the House of Delegates of MSMA had directed the Council to attempt to have the Division of Welfare rescind it. Mr. Carter emphasized his desire for continued cooperation between the Division of Welfare and the MSMA in ironing out problems pertaining to the Medicaid program. After extensve discussion, it was agreed by Mr. Carter and Drs. Loyd and Leslie that their letter of March 29 would be rescinded and a new memorandum covering the same subject would be sent to physicians participating in the program. A letter to this effect was sent out on April 8, 1968 to all physicians participating in the Title XIX program.

Bill O'Malley

"Mrs. Hilbreth cancelled her appointment, Doctor! She said she made a self-diagnosis after reading an article about her problem!"

After further discussion, the following resolution was presented by Dr. Cope:

Whereas, A recent memorandum of the Department of Welfare represented an attempt to control medical practice by pricing, and

Whereas, It required prompt action by Committees of the MSMA to have this memorandum rescinded, and

Whereas, There is no assurance that such an attempt will not be made again, be it therefore

Resolved, That the individuals who caused the memorandum to be rescinded be commended and, be it further

Resolved, That any future attempt of any agency to control medical practice through pricing be immediately resisted by every modality the MSMA can command.

After further discussion, on motion of Dr. Benoit, duly seconded, the above resolution was approved.

Mr. Gordon Weiss, former Director of Comprehensive Health Planning, Department of Community Affairs for Missouri, presented interesting and informative material regarding P.L. 89-749. He stated that S.B. 14 was passed to implement the program in Missouri. Under Section A of the law, Missouri was allotted $141,000 for the first year of planning. He stated that Section B was for monies to be allotted for area-wide for local planning; Section C was for monies allotted for demonstration and training grants primarily for health planners; Section D allowed Health Department and the Mental Health authorities to extend their planning facilities and would provide money for planning and for carrying out their ongoing programs; and Section E was for monies provided to expand ongoing health programs on a local basis.

Mr. Weiss mentioned that in order to qualify under Section A, the State had to provide a planning program which was approved in the late 1967 by the U. S. Public Health Service. The Comprehensive Health Planning program, as planned for Missouri, takes in the total well-being of man and does not center around just the presence or absence of disease and infirmity. It also includes health manpower, resources and services. He said that the state plan would promote studies to determine needs. He added that the State did not wish to interfere in organized medical programs or programs of service organizations and would not be involved with facilities and services. He stated that on Nov. 24, 1967, the Missouri program was funded ($141,000) and an Advisory Council of 27 people appointed. The law requires that a majority of the Advisory Council membership shall consist of representatives of consumers of Health Services. He stated that there are six physicians on the Advisory Council, none of whom are practicing physicians. It was pointed out that MSMA should be represented on this Council and that names of a number of practicing physicians had been requested by Mr. Weiss for submission to the Governor for his consideration for appointment to the Advisory Council.

It was stated that, under Section B grants, a request has been received from St. Louis and Kansas City will apply soon. Physicians also need to be active in these local planning groups in order to direct their activites and the expenditure of funds which are granted for local area programs.

Dr. Fisher thanked Mr. Weiss for coming and for explaining this program so thoroughly.

After discussion, the following names were presented by Dr. Kerr to be submitted to the Governor for possible appointment of one or two on the Advisory Council: Drs. C. Read Boles, Clayton; Harold L. Gainey, Kansas City; Robert W. Kelley, St. Louis; F. Thomas Moseley, Springfield and Thompson E. Potter, St. Joseph. These names to be forwarded to the Governor immediately.

Dr. Kerr called attention to the Resolution from the 1968 House of Delegates regarding Missouri Medical Service and requested that Councilors from the various districts covered by St. Louis Blue Shield submit names to him for the MSMA Liaison Committee with Blue Sheld to discuss changes in the method of nominating and electing members on the Voting Board and Board of Trustees of Blue Shield. These names are to be submitted on Sunday morning.

Dr. Kerr appointed the following physicians as members of the Committee on Environmental Health, which was newly-established by the House of Delegates: Drs. A. W. Neilson, St. Louis, Chairman; E. A. Stricker, St. James; Paul T. Luckenbill, Plattsburg; Horace A. Lowe, Jr., Springfield; Lloyd A. Hollinger, Kansas City.

On motion of Dr. Benoit, seconded by Dr. Gunn, the above committee was approved.

Dr. Kerr pointed out that the Public Service Committee was not announced at the Annual Session, but that the Committee would be composed of the following members: Drs. Gerald L. Miller, Kansas City, Chairman; David N. Kerr, Clayton; Doyle C. McCraw, Bolivar; Armand Brodeur, St. Louis, and Kenneth Glover, Mount Vernon.

On motion of Dr. Gunn, duly seconded, the above Committee on Public Service was approved.

A number of resolutions adopted by the 1968 House of Delegates were referred to the Council for discussion and recommendations as follows:

1. *Resolution re: State Medical Examiner Law.* Discussion followed regarding the proper time to notify the Governor and Legislators of the MSMA position favoring such a law in Missouri, who should have the bill introduced and what steps should be taken to secure support for the proposed law.

After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that this particular resolution from the House of Delegates be referred to the Legislative Committee for implementation.

2. *Resolution re: Increasing the Number of Qualified Physicians in Missouri.* This resolution urges the Missouri Legislature to supply the necessary facilities to the citizenry of the state to allow for an increase in the number of medical graduates in the state. Discussion followed regarding the best way to handle this resolution. On motion of Dr. Miller, duly seconded, it was agreed that this resolution be implemented as stated and, further, that it be referred to the Committee on Medical Education and Hospitals for additional study and recommendations.

3. *Resolution re: Establishing Medical School and Facility in Kansas City, Missouri.* It was pointed out that the Missouri Commission on Higher Education had not as yet made any recommendations based on the Olson report on the survey of physician manpower in Missouri. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that this resolution be referred to the Committee on Medical Education and Hospitals and that the last *Resolve* of the resolution be implemented by the staff.

After further discussion, on motion of Dr. Cope, duly seconded, it was agreed that a covering letter should accompany the resolutions to be sent to the Governor and the Legislators.

4. *Resolution re: County Medical Society Officers' Conference.* After review and discussion, on motion of Dr. Benoit, duly seconded, it was agreed to refer this resolution to the Committee on Public Service for implementation.

5. *Resolution re: State Board of Registration for the Healing Arts Investigation.* After considerable discussion and review, on motion of Dr. Gunn, duly seconded, it was agreed that a copy of this resolution be sent to the State Board of Registration for the Healing Arts.

6. *Resolution re: Group Practice.* After reviewing this resolution, it was reported that Dr. Neilson would present it to the AMA as directed. The question arose regarding when it should be sent to the State Legislature. After further discussion, on motion of Dr. Wray, duly seconded, it was agreed that this resolution be held until after the annual session of the AMA and that the MSMA then follow the advice of our AMA Delegates regarding the distribution to the Legislature.

7. *Resolution re: Human Blood as a Service and Not a Sale.* Discussion followed regarding the implementation of this resolution. It was suggested that it be referred to the Laboratory Medicine Committee for study and suggestions, with their suggestions to be forwarded to the Legislative Committee so that they can provide the Council with a full report at its next meeting.

8. *Resolution re: Post Doctoral Training of Osteopathic Graduates.* A copy of the resolution was sent to the Missouri Osteopathic Association requesting a liaison committee of that Association with MSMA. The purpose of the joint liaison committee, as expressed in the resolution, is to explore the possibility of extending postdoctoral training of interns and residents in medical hospitals in the State of Missouri to qualified osteopathic graduates licensed by the State of Missouri. A reply was received stating that this request will be presented to the House of Delegates of the Missouri Association of Osteopathic Physicians and Surgeons at their forthcoming meeting in June. After further discussion, on motion of Dr. Benoit, it was agreed that this resolution be referred to the MSMA Committee on Medical Education and Hospitals with instructions to confer with the AMA Council on Medical Education about this matter.

9. *Resolution re: Total Health Care Costs of the Medicare and Medicaid Programs in Missouri.* Discussion followed regarding the feasibility of the staff preparing each year a breakdown of these expenditures from

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appropriate public records, with source notations, and publicizing same on a wide basis. On motion of Dr. Gunn, duly seconded, it was agreed that the staff be directed to study the feasibility of this resolution and report back to the Council at its next meeting.

Discussion then followed regarding the final *Resolve* which directs that the AMA Board of Trustees and the AMA House of Delegates be made aware of this action by the MSMA House of Delegates and that they be requested to consider similar action and public information programs at the national level.

On motion of Dr. Kerr, duly seconded, it was agreed that a copy of this resolution be sent to Dr. Blasingame with a covering letter before the next meeting of the AMA House of Delegates.

10-a. Resolution re: Comprehensive Health Planning. This resolution urges the Governor to call on health professionals for assistance in implementing P.L. 89-749 in Missouri. The Council reviewed this resolution and on motion, duly seconded, it was agreed that a copy be sent to Governor Hearnes and a copy be sent to each County Medical Society Secretary for consideration.

10-b. Resolution re: Establishing Permanent Committees on Comprehensive Health Planning. After discussion, on motion, duly seconded, it was agreed that this resolution be referred to the Committee on Constitution and By-Laws for proper implementation; that the President be directed at this time to appoint an Ad Hoc Committee to study this problem during the next year; and that a copy of this resolution be sent to each County Society for implementation on the local level.

10-c. Resolution re: Comprehensive Health Planning Program in Missouri Unacceptable. After discussion, on motion of Dr. Gunn, it was agreed that this resolution be tabled in view of developments since the meeting of the House of Delegates which have changed the situation which existed at the time of the session of the House.

Dr. Buesseler, Chairman of the Ad Hoc Committee to Study the Cost of Medical Care in Missouri, reviewed the minutes of the meeting of his committee held in St. Louis on April 17, 1968, with the MSMA Delegates and Alternates to the AMA. He explained that the purpose of the meeting was to determine the most practical, effective way to approach the AMA to secure their cooperation and assistance in implementing and funding an in-depth study of health care costs in Missouri in compliance with the action of the MSMA Council and House of Delegates.

Dr. Buesseler reported that the AMA Ad Hoc Committee on Health Care Financing would meet in Chicago on April 27, 1968, at which time the Missouri Delegation could present its proposed study. He stated that a package of three items of information would be prepared for distribution to the AMA Staff and members of the AMA Committee on Health Care Financing. Following the meeting with the AMA Committee on April 27, the MSMA Delegation will request, if it seems appropriate, a hearing before the AMA Board of Trustees through Dr. Blasingame.

Dr. Buesseler then reported on the meeting of the MSMA Delegation with the AMA Ad Hoc Committee on Health Care Financing, April 27, 1968. He stated that Dr. Neilson presented the problem to the AMA and spoke of the national concern over increasing health care costs and the necessity for organized medicine to concern itself with the problem.

Dr. Benoit informed the AMA Committee of the evolution of the MSMA proposal as the direct development of the Association's concern over the criticism directed at physicians from many public and private sources because of the general rise in health care costs.

Dr. Buesseler discussed the specific proposal for such a study and Professor Goode presented the proposed methodology for the study in response to questioning by the AMA Committee, AMA Staff and others present at the meeting. Dr. Blasingame suggested that the next step would be a meeting of the MSMA delegation with the AMA staff to further evaluate the study proposal prior to a determination of its feasibility and its desirability for funding under AMA sponsorship. Plans to meet with the AMA staff were changed and Dr. Neilson reported tenative arrangements to meet with another committee of the AMA, composed of members of the Board of Trustees, on May 16, 1968 in Chicago to explain the MSMA position and its request. Dr. Neilson requested approval of the Council to take the same delegation and President Kerr to the meeting in Chicago on May 16. The Council approved this request.

On motion of Dr. Wray, duly seconded, the reports of the MSMA Ad Hoc Committee to Study Health Care Costs in Missouri were approved.

Dr. Neilson reported on two resolutions to be presented to the AMA House of Delegates in June: (1) A resolution complimenting the AMA on the Second National Congress on Socio-Economics of Health Care; and (2) a resolution against any federal compulsory and coercive promotion of group and hospital practice of medicine. Both of these resolutions were reviewed. On motion of Dr. Robert Mayer, duly seconded, the resolutions were approved for presentation to the AMA House of Delegates.

On motion, duly seconded, the AMA Delegate's report was approved.

The resolution regarding appointment of a committee of physicians from component medical societies of the area served by St. Louis Blue Shield to work with a committee from St. Louis Blue Shield to effect changes in the By-laws of Blue Shield relating to the nomination and election of the physician members of the Voting Board and Board of Trustees of St. Louis Blue Shield was brought up on Sunday. The following physicians were appointed by the President: Drs. Robert W. Kelley, St. Louis, Chairman; Milton T. English, Kirksville; Hubert A. Ritter, St. Louis; Charles Gulick, St. Louis; George A. Richardson, Union; Charles J. Miller, Clayton; Roland P. Ladenson, Columbia; Horace E. Thomas, Columbia; MacDonald Bonebrake, Springfield; Howard J. McAlhany, Springfield; E. A. Stricker, St. James; and Harold Rapp, Cape Girardeau.

Dr. Kerr appointed the following members to the Legislative Committee: Drs. John I. Matthews, Chairman; David N. Kerr, St. Louis; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; Gerald L. Miller, Kansas City. Associate Members: Drs. Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; Arthur W. Neilson, St. Louis; Hector W. Benoit, Jr., Kansas City.

Further discussion was held on the appointment of a MSMA Comprehensive Health Planning Committee. It was suggested that the physician selected by the Governor to serve on the State Advisory Committee on Comprehensive Health Planning also serve as Chairman of the MSMA Committee on Comprehensive Health Planning. It was further suggested that the five physicians whose names were to be submitted to the Governor would compose the MSMA Committee. On motion, duly seconded, this was approved.

Mr. McIntyre requested clarification of the appropriate time for resolutions discussed on Saturday are to be sent to the Legislators in view of the upcoming elections and the changes which might occur. On motion of Dr. Gunn, duly seconded, it was agreed that these items should be mailed after the November elections. All members of the 1969 Missouri Legislature would then receive them.

Dr. McCraw called attention to the luncheon for Senior and Junior Students of the University of Missouri Medical School, in conjunction with Preceptor Day, which is scheduled for June 12, 1968 in the Student Union Building, Columbia. He mentioned that it has been the policy of the Missouri Academy of General Practice and Missouri State Medical Association to cosponsor this event and share the expense. He expressed the hope the Council would approve continuing this practice.

After discussion, on motion of Dr. Gunn, duly seconded, it was agreed to continue our support of this program and to underwrite financially our part of the expense.

Discussion followed regarding continuation of the contacts made at affairs such as the above mentioned luncheon in order to recruit young physicians to practice in Missouri. It was stated that it was not enough just to contact them once a year, but that ways and means should be worked out to remain in contact with these trainees, to increase the applicants for medical schools, to increase the opportunities for medical education in Missouri and to recruit for practice in Missouri not only the students from Missouri but also those from other states.

After further discusson, on motion of Dr. Miller, duly seconded, it was agreed that these problems be studied by the Medical Education and Hospital Committee and that the Rural Medical Service Committee also should be delegated to study this matter and make recommendations to the Council regarding what can be done.

Discussion followed regarding setting up a Planning Committee to consider goals and future activities of the Association. A number of ideas and suggestions were forthcoming. Mr. Skinner, Public Relations Consultant, spoke extensively to this subject. Dr. Matthews suggested that an agenda be prepared by the staff, the Chairman and Vice-Chairman of the Council, the Immediate Past-President, the President and President-Elect to encompass areas regarding the goals and activities (present and future) and the structure and economics of the Association, the agenda to be set up by specific items for consideration as follows: (a) A one-day meeting of the Council be held to discuss this particular agenda only; (b) A one-day meeting of the Medical Economics Contract Committee be held to discuss this same agenda; (c) Another group composed of younger men from 35 to 40 years of age and possibly one from each district over the state and who are constructively interested in organized medicine, be appointed and requested to consider this same agenda; and (d) Possibly the presidents of all county medical societies be requested to meet and study the same agenda.

After further discussion, on motion of Dr. Gunn, duly seconded, it was agreed that the above mentioned committee formulate the agenda for a special meeting of the Council and that the Council decide on other physician groups to be requested to meet and consider the same agenda.

Dr. Jack Sanders reviewed the report of the Committee on Study of Cardiac Disease for Dr. James Janney, Chairman, who could not attend. He called attention to the proposed amendments to the MSMA Resolution on Cardiac Resuscitation which was approved by the House of Delegates, April 7, 1967. He stated that the resolution directed that copies be sent to the Missouri Nursing Association and Missouri Hospital Association suggesting an ultimate joint statement of the three associations. After review, the nursing profession requested a statement on legal liability of the nurse in this program from the Attorney General of Missouri. The Attorney General's letter of April 18, 1968, stated the reasons for the following proposed changes in the resolution:

"Under certain circumstances, situations may arise in the hospital routine in which registered nurses and other personally selected and trained personnel may be called upon to administer the cardiac resuscitation techniques which are the subject of this resolution. We are limiting our consideration to situations in which there is no doctor present nor has the person in need of such resuscitation been under a doctor's care, nor has the doctor left standing orders. It is at this point where the diagnosis as to use and the administration of these techniques may be termed the practice of medicine.

"We believe that if the boards and associations adopting the resolution feel that these situations mentioned above could be classified as an '*emergency*,' then the administration of the cardiac resuscitation techniques may not fall within the prohibitive area of practicing medicine without a license."

Dr. Sanders reported that the Committee was polled by mail and unanimously approved the proposed amendments in line with the Attorney General's letter and asks approval of the MSMA Council. He stated the amendment added the words, "in emergency situations."

On motion of Dr. Kerr, duly seconded, the report of the Committee on Study of Cardiac Disease was accepted.

Dr. Cope reported that he had attended an all day forum in Columbia at which a discussion was held concerning how the $100,000 appropriated by the Missouri Legislature would be spent for chronic renal dialysis. He said that certain standards would have to be set up for a long range plan to handle the problem of chronic renal dialysis in Missouri.

Several other Councilors reported items of interest in their districts.

Dr. William Mayer, Dean of the University of Missouri School of Medicine, reported that he had attended a luncheon on Wednesday, May 8, 1968, given by the MSMA, at which checks were presented by Dr. Kerr, President of MSMA, to the Deans of the three medical schools in Missouri from the AMA-ERF fund. The combined contributions totaled more than $33,000. Dr. Mayer expressed appreciation for these contributions on behalf of the three medical schools.

It was announced that the next meeting of the Council will be held in Springfield at the Howard Johnson Motel, on Sept. 7, 8, 1968.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Thirty-four members and guests attended the June 5 dinner and meeting of the Buchanan County Medical Society in St. Joseph. Dr. John L. Mothershead, president-elect, presided. Dr. Ernest E. Weinand, program chairman, introduced the speaker, Dr. Earl M. Simmons, associate director of the Missouri Regional Medical Program, who gave an illustrated talk on the Program.

Dr. John H. Mayer, Jr., president of Blue Shield, and Mr. Tom Collins, deputy director of the Plan, were guests at the Council meeting which preceded the general Society meeting. Mr. Don Brummall, executive assistant of the MSMA, also was a guest.

Owen W. D. Craig, M.D., *Secretary*

SECOND DISTRICT

COUNCILOR
LYSLE M. BACH, M.D., HANNIBAL

Marion-Ralls-Shelby County Medical Society

The Marion-Ralls-Shelby County Medical Society met in Hannibal on May 21 with 15 members present.

Guest speaker was Dr. Burton Shatz, M.D. of Washington University, who discussed "Fibre Optics for Gastroscopi." His assistant, Dr. Phil Korenblat of Washington University, assisted him in presenting slides for this unusual demonstration.

Dr. Phillip B. Foreman, vice-president, presided in the absence of Dr. Albert Grant, president, who is serving a two-month tour of duty as an AMA Volunteer Physician for Viet Nam.

Mr. Don Brummall of the MSMA statewide office in Jefferson City was a guest at the meeting.

James K. Mann, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society meeting was held on May 14 in Lexington. Twenty-six members and the following guests attended: Mr. John Harris, representative from Blue Cross-Blue Shield in Kansas City; medical students John Diller, John Langeluttig and Gwynn Jelden from the University of Missouri Medical Center who are spending their perceptorships with physicians of the Society.

Following the dinner, the program was turned over to Mr. Harris, who discussed the proposed program of reasonable and customary fee payment which apparently will supersede the present Tri-level plan. After Mr. Harris's explanation of the new program, the meeting was opened for discussion and many questions were asked concerning this new plan of payment. It seemed to be the consensus of opinion of most of the members present that the program had its good points and apparently would follow a pattern already established by the federal and state governments under Medicare and Medicaid programs. The bad points were considered to be similar to those in the Medicare and Medicaid programs wherein the physician is again required to sign a blind contract accepting payment of usual and customary fee, again with the third party making the rules and establishing what they consider to be the reasonable and customary fee.

Following the discussion, the meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

At the West Central Missouri Medical Society on June 13 in Nevada, the customary social hour and dinner preceded the scientific and business meetings of the Society.

The scientific portion of the program featured Maxwell G. Berry, M.D. of Kansas City who discussed the diagnosis and treatment of the complications of acute myocardial infarction. Doctor Berry gave an excellent presentation which was enjoyed by all present.

Following the scientific presentation, Doctor Berry and Dr. William W. Haynie, Blue Cross-Blue Shield board members for our Society, discussed some of the problems confronting the Blue Cross-Blue Shield organization in Kansas City. This was an open and informal discussion in which the members of the Society participated.

The business meeting was held following this discussion. Minutes of the previous meeting were read and approved. Correspondence received by the secretary was read and discussed. Dr. R. B. Wray, president, appointed the following committees: *Comprehensive Health Planning Committee*—Drs. A. W. Ekland, Cass County, Chairman; Robert L. Magee, Cedar County; Arthur L. Hanson, Bates County; Jerome Thies, St. Clair County; R. W. Pearse, Jr., Vernon County. *Emergency Medical Care Committee*—Drs. R. W. Pearse, Jr., Chairman; Robert L. McGee; Arthur L. Hanson; Jerome Thies; Alfred Ekland.

It was announced that the Society would not meet in July and that the September meeting would be changed to August 29. This will be the annual meeting with the football coaches in the territory.

There being no further business to come before the meeting, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

NINTH DISTRICT

COUNCILOR
E. A. STRICKER, M.D., ST. JAMES

Mid-Missouri County Medical Society

The Mid-Missouri Medical Society met on June 27 at St. Robert. The doctors' wives attended and a social hour preceded the meeting.

The guest speaker for the meeting was Dr. David G. Hall, chairman of the department of obstetrics and gynecology at the University of Missouri School of Medicine. Doctor Hall discussed "The Management of Common Obstetric Emergencies."

The next meeting of the Society will be in September.

Barbara E. Russell, M.D., *Secretary*

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MU Studies New Serum For Prevention of Rabies

A special plasma-collection program involving veterinary medical students was conducted recently at the University of Missouri-Columbia. The "Rabies Immune Globulin Program" is sponsored by Hyland Laboratories of California, one of the world's largest dealers in blood plasma and plasma fractions.

The purpose of the study is to find a better treatment for the prevention of rabies using anti-serum of human origin instead of the horse origin material now being used.

Since Pasteur's introduction in 1885 of prophylactic vaccination against rabies in man, relatively few innovations have occurred in this field.

The present rabies anti-serum works effectively, but many develop "serum sickness" from the horse serum. The Pasteur series is somewhat long and uncomfortable, but more important is the question raised about its dependability when used alone in severe bites.[1, 2]

Although rabies is no longer a common disease in man, the treatment for prevention of rabies is very common (30,000 to 50,000 "Pasteur series" per year). By perfecting the human anti-serum, the person can receive protection in a matter of minutes, rather than weeks, without developing any severe reactions. It is estimated that it will be at last least two years before the new serum can be perfected and marketed.

Missouri is the only place in the United States where blood samples are being collected for this program, according to Dr. Donald C. Blenden, associate professor of veterinary microbiology and of community health and medical practice at the University of Missouri-Columbia. Doctor Blenden is one of the co-project directors with Dr. William Galeota, director of the Student Health Service, professor of psychology and associate professor of community health and medical practice; and Dr. Donald A. Senhauser, professor of pathology.

The student body of the UMC School of Veterinary Medicine was chosen for this collection because of its interest in rabies study (the Public Health Section of the Department of Veterinary Microbiology) and the routine immunization injections which were received by the students during their four years at the school to safeguard their occupational exposure to rabies.

The program was presented to the students. Volunteers donated blood samples which were studied to determine the rabies antibody level. Volunteers with the highest levels were chosen to continue the program.

Twenty-seven students were selected. Each reported to the Student Health Service for additional immunization shots, bringing their total to nine. A method involving plasmapheresis was used to obtain the required plasma for the study at the UMC Medical Center's blood bank. One pint of blood is taken in the normal manner. Instead of removing the needle, however, a drip of saline is given to keep the vein open while the blood sample is centrifuged at 4,000 rpms. The cells settle to the bottom and the plasma is left on top so that the cells can be returned to the donor. The process is then repeated to obtain a second pint of blood.

From this study, it also is hoped to determine the most effective route of administering the anti-rabies vaccine and to develop new serologic techniques for determining the amount of antibody in the blood.

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1. Prevention of Rabies, or the Decline of Sirius, Hildreth Ann. Intern. Med., 58:899 (May) 1963.

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(Additional information concerning rabies immunization and treatment is presented in the scientific article, "Some Recent Developments in Rabies Immunization" by Drs. Donald C. Blenden, Henry M. Parrish and William R. Galeota on page 651.—Ed.)

Will You Be There?

Missouri State Medical Association

111th ANNUAL SESSION
March 20-23, 1969

Chase-Park Plaza Hotel **St. Louis**

Dr. Kerr Presents Checks to Medical School Deans

(Left to right) **David N. Kerr, M.D., President of Missouri State Medical Association, with M. Kenton King, M.D., dean of Washington University School of Medicine; William D. Mayer, M.D., dean of Missouri University School of Medicine; and Robert H. Felix, M.D., dean of St. Louis University School of Medicine. Doctor Kerr presented AMA-ERF checks totaling more than $33,000 for 1968 to the deans.**

Contributions totaling more than $33,000 were made to Missouri's three medical schools recently by the American Medical Association's Education and Research Foundation (AMA-ERF). David N. Kerr, M.D., President of the Missouri State Medical Association presented the grants to the deans of the schools at a luncheon at the University Club in St. Louis.

Robert H. Felix, M.D., dean of the St. Louis University School of Medicine, received $14,184; M. Kenton King, M.D., dean of Washington University School of Medicine, received $13,520; and William D. Mayer, M.D., dean of Missouri University School of Medicine, received $5,966.

The grants were made from a total of $948,907 contributed to the AMA-ERF Fund for Medical Schools in 1967 by physicians, their families and allied groups such as the Woman's Auxiliary to the American Medical Association. Deans of the recipient schools may use the funds at their discretion for special projects or expenses outside their budgets.

The Fund was established in 1951 to enable physicians to play a greater part in the financial support of the nation's medical schools.

★

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WASHINGTON

President Johnson has designated the Secretary of Health, Education and Welfare, Wilbur J. Cohen, as the chief federal official for health policies and programs.

An HEW reorganization plan, recommended by Cohen and approved by Mr. Johnson, makes the Secretary (1) The President's chief adviser on federal health policy and programs, (2) responsible for coordinating all federal health programs and (3) head of a new Federal Interdepartmental Health Policy Council.

The reorganization also included creation of a Consumer Protection and Environmental Health Service as a unit of the Public Health Service and transfer of the Division of Regional Medical Programs from the National Institutes of Health to the Health Services and Mental Health Administration.

Mr. Johnson also agreed to renew a request to Congress to raise the status of HEW's principal health official, now Dr. Philip R. Lee, from Assistant Secretary to Under Secretary for Health and Science.

The new consumer and environmental health unit consists of: The Food and Drug Administration; The National Center for Air Pollution Control; The National Center for Radiological Health; The National Center for Urban and Industrial Health; Certain staff units of the Office of the Director, Bureau of Disease Prevention and Environmental Control.

Charles C. Johnson, Jr., a Negro and Assistant Commissioner for Health for Environmental Health in New York City, was named to head the new unit. An engineer, he had been on leave from the Public Health Service and his new post makes him the highest ranking Negro member in the history of PHS.

Dr. Herbert L. Ley, Jr., who had been director of the FDA's Bureau of Medicine since the fall of 1966, was appointed to succeed Dr. James L. Goddard who recently resigned as Commissioner of Food and Drugs. Dr. Ley, 44, had been recommended by Goddard and also had the support of a number of Senate and House members on committees concerned with FDA. A 1946 graduate of the Harvard Medical School, Dr. Ley had been on the faculty at his alma mater and the George Washington University School of Medicine earlier in his career. He also had served as chief of medical branches of the Army research office and the office of the Army Surgeon General.

The interdepartmental health policy council will oversee all federal activities in the health field, such as the drafting of physicians for service with the armed forces, Veterans Administration hospitals and Office of Economic Opportunity health projects.

Cohen said that there had been no way in the past for the HEW secretary to give guidance in such matters. He said there must be a reexamination of the drafting of physicians to provide care in the United States for civilian dependents of military personnel.

"This allocation of a portion of the critically scarce physician pool materially affects programs intended to make health care as widely available as possible, a national health goal that goes far beyond the mission of the Department of Defense," Cohen said.

As Medicare went into its third year, Cohen announced the appointment of a 12-member advisory council to study the possible extension of the program to disabled persons under age 65. Congress last year turned down the Administration's request for such an extension but authorized creation of the council to study the matter.

In discussing Medicare, Cohen said rising health care costs had made financing of the program a serious problem. He said new financing, presumably a tax increase, may be required if costs continue to rise.

"Physicians must act with restraint on fees or people will ask government to put on controls," he said. "I would not like to see that."

Dr. Henry H. Kessler, director of the Kessler Institute for Rehabilitation in Newark, N. J., was named chairman of the advisory council. Other members are:

Dr. Morris Brand, medical director of the Sidney Hillman Health Center; James Brindle, president of the Health Insurance Plan of Greater New York; James M. Gillen, director of personnel research of General Motors; Juanita Kreps, associate professor of economics at Duke University; Dr. Leonard W. Larson, past-president of the American Medical Association; Daniel W. Pattengill, vice-president of Aetna Life and Casualty Co.; Bert Seidman, director of the AFL-CIO social security department; E. A. Vaughn, vice-president of the Aluminum Co. of America; Anthony G. Weinlein, executive assistant to the president of the AFL-CIO Building Service Employes; E. B. Whitten, executive director of the National Rehabilitation Assn.; and Dr. Alonzo S. Yerby, professor at Harvard's School of Public Health.

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Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia), sudden weight gain (water retention), skin reactions, black or tarry stools or other evidence of intestinal hemorrhage occur. Make complete blood counts at weekly intervals during early therapy and at 2-week intervals thereafter. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.
Adverse Reactions: The more common are nausea and edema. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension, the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reacti-

Volume 65, Number 8—August, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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DONALD C. BLENDEN, D.V.M., HENRY M. PARRISH, M.D.
and WILLIAM R. GALEOTA, M.D., *Columbia*

Some Recent Developments in Rabies Immunization

After reviewing the early history of rabies prophylaxis, the authors present a detailed discussion of recent developments in local wound treatment, duck embryo rabies vaccine and antirabies serum from equine sources. They cite the need for more research and discuss a new concept and possible future developments that may improve current immunization procedures. The WHO recommendations for postexposure treatment are included. The authors are from the University of Missouri where Doctor Blenden is Associate Professor and Chief of the Section of Veterinary Public Health, School of Veterinary Medicine; Doctor Parrish is Professor of Community Health and Medical Practice, School of Medicine; and Doctor Galeota is Director of the Student Health Service.

Human exposure to rabies continues to be a problem in the United States although deaths from this cause are rare as a result of control measures, including rabies immunization. Habel[1] estimated that 6,000 or more rabid animals are reported and at least 50,000 patients receive rabies vaccine annually in this country. The purposes of this paper are to review briefly the development of rabies immunization, to point out some recent developments in this field and to suggest possible future innovations which may improve current immunization procedures.

Early History

Rabies has been known since antiquity. Among the earliest forms of treatment recommended were wound cauterization by Celcus (100 AD) and surgical excision by Galen (200 AD). Later, chemical treatment with fuming nitric acid was introduced. Fortunately, the cauterization of wounds, while still practiced in some instances, has faded into a rightful obsolescence and more effective means of local wound treatment are now practiced. It is interesting, however, to note how often in discussions of postexposure rabies treatment that wound cauterization is mentioned and apparently practiced on occasions. Thorough irrigation of the wound with a 20% soap solution or a 1:1,000 solution of benzalkonium chloride (Zephiran) is currently recommended, since the virus may persist in the wound for as long as 48 hours.[2] If soap is used, it should be thoroughly washed from the wound before benzalkonium chloride is used, since soap neutralizes benzalkonium chloride. Primary suturing of the wound is contraindicated. Local infiltration of the wound with antirabies serum lowers the risk of developing rabies.

Louis Pasteur announced the development of rabies vaccine in 1884.[3] This consisted of a series of daily injections of fixed virus, inactivated by drying, prepared from the spinal cords of rabies-infected rabbits. This discovery provided a major advance in the prevention of rabies: hundreds of thousands of people have received the "Pasteur treatment."

Semple modified the rabbit nervous tissue vaccine by inactivating the virus with phenol. Because of the crude nature of the Pasteur and Semple vaccines, in terms of protein and antigenic contamination, the injections were rightly given the reputation of being a rather painful process, particularly when Arthus phenomenon reactions develop.

Unfortunately, the nerve tissue present in the vaccine also acted as an antigen, developing antibodies of a specific nature. These antibodies may react with the individual's own nerve tissue, producing in some instances a demyelinating encephalo-myelitis and the all too familiar "postvaccinal paralysis." The question has never been answered regarding how much postvaccinal paralysis is due to antigen-antibody reaction and how much might actually be immunologically aborted rabies. Estimates of the incidence in the United States of postvaccinal paralysis following the injection of nerve tissue vaccines varies from 1:527 to about 1:7,200.[4, 5] Although many routes of administration were probably tried, this vaccine characteristically has been given subcutaneously most often under the skin of the abdomen. The reason for the selection of this anatomic site would seem to have no scientific basis in terms of the efficiency of antibody production but simply represents a large surface area for the spacing of multiple injections in an area subjected to minimal movement.

DUCK EMBRYO VACCINE

The development of duck embryo rabies vaccine in 1950 by Powell and Culbertson[6] was a major development in rabies prophylaxis. This vaccine is prepared from a suspension of embryonic duck tissue infected with fixed virus which is killed by the addition of beta-propiolactone. The idea was to develop an effective rabies vaccine which would contain little or none of the "paralytic factor" present in brain tissue vaccines. The safety and potency of this vaccine were demonstrated by Peck and associates.[7] Postvaccinal paralysis is extremely rare with duck embryo vaccine. Of about 90,000 people receiving 14 doses of duck embryo vaccine, there were reports of two patients having symptoms suggesting encephalitis and two with transverse myelitis. All four patients recovered completely. These incidents are difficult to confirm as being caused by the vaccine. Of interest is the fact that the time-dose-method schedule for post-exposure vaccination has not changed much from the original method of Pasteur. Complete treatment consists of one subcutaneous dose daily for 14 days. The abdomen remains as the recommended site for the injections for the reasons stated above.

ANTIRABIES SERUM

Passive immunization with antirabies serum has been shown to be effective in protecting animals if the serum is administered within 24 hours after exposure.[8, 9] However, it does not afford 100% protection. This serum is manufactured by hyperimmunizing horses with repeated injections of fixed rabies virus. Usually, antirabies serum is used in addition to duck embryo vaccine in cases of severe exposure in which the incubation period of rabies may be drastically shortened. This includes wounds on the head, face, neck and fingers and multiple wounds. Severe wounds are classified by the complexity of the peripheral nerve bed and not by the distance of the wound site from the central nervous system. The minimal recommended dose is 1,000 International Units per 40 kg of body weight. If treatment is delayed longer than 24 hours or if the exposure is especially severe, larger doses may be required. A conjunctival and/or intradermal skin test is required before administering this horse serum product. When possible, a portion of the serum should be infiltrated at the site of the wound and the remainder may be injected intramuscularly into the buttocks. In addition, a full course of 14 to 21 doses of duck embryo vaccine is given and followed by booster injections ten and 20 days after the last regular dose. Obviously, antirabies serum and duck embryo rabies vaccine should not be mixed in the same syringe or given at the same site.

PREEXPOSURE IMMUNIZATION

Due to the relatively long incubation period of rabies and the danger of postvaccinal paralysis from using rabies vaccines made from nerve tissue, preexposure immunization has emerged as a relatively new concept. Two types of vaccines have been used extensively in this country for pre-exposure rabies immunizations: (1) Flury HEP modified *live* virus vaccine made from the chick embryo and (2) *inactivated* duck embryo vaccine.[6, 10, 11] Tierkel and Sikes[12] compared these two vaccines among 540 volunteers for injections and, on the basis of their findings, recommended that two deep subcutaneous injections

TABLE 1

WORLD HEALTH ORGANIZATION GUIDE FOR POSTEXPOSURE TREATMENT, FIFTH REPORT, 1966

Nature of Exposure	*Status of biting animal (irrespective of whether vaccinated or not)*		*Recommended Treatment*
	AT TIME OF EXPOSURE	DURING OBSERVATION PERIOD OF TEN DAYS	
I. No lesions; indirect contact	Rabid	—	None
II. Licks			
(1) unabraded skin	Rabid	—	None
(2) abraded skin, scratches and unabraded or abraded mucosa	(a) healthy	Clinical signs of rabies or proven rabid (laboratory)	Start vaccine[1] at first signs of rabies in the biting animal
	(b) signs suggestive of rabies	Healthy	Start vaccine[1] immediately; stop treatment if animal is normal on fifth day after exposure
	(c) rabid, escaped, killed or unknown	—	Start vaccine[1] immediately
III. Bites:			
(1) mild exposure	(a) healthy	Clinical signs of rabies or proven rabid (laboratory)	Start vaccine[1, 2] at first signs of rabies in the biting animal
	(b) signs suggestive of rabies	Healthy	Start vaccine[1] immediately; stop treatment if animal is normal on fifth day after exposure
	(c) rabid, escaped, killed or unknown	—	Start vaccine[1, 2] immediately
	(d) wild (wolf, jackal, fox, bat, etc.)	—	Serum[2] immediately, followed by a course of vaccine[1]
(2) severe exposure (multiple, or face, head, finger or neck bites)	(a) healthy	Clinical signs of rabies or proven rabid (laboratory)	Serum[2] immediately; start vaccine[1] at first sign of rabies in the biting animal
	(b) signs suggestive of rabies	Healthy	Serum[2] immediately, followed by vaccine; vaccine may be stopped if animal is normal on fifth day after exposure
	(c) rabid, escaped, killed or unknown	—	Serum[2] immediately, followed by vaccine[1]
	(d) wild (wolf, jackal, pariah dog, fox, bat, etc.)		

[1] Practice varies concerning the volume of vaccine per dose and the number of doses recommended in a given situation. In general, the equivalent of at least 2 ml of a 5% tissue emulsion should be given subcutaneously daily for 14 consecutive days. Many laboratories use 20 to 30 doses in severe exposures. To ensure the production and maintenance of high levels of serum-neutralizing antibodies, booster doses should be given at 10 days and at 20 or more days following the last daily dose of vaccine in *all* cases. This is especially important if antirabies serum has been used, in order to overcome the interference effect.

[2] In all severe exposures and in all cases of unprovoked wild animal bites, antirabies serum or its globulin fractions together with vaccine should be employed. This is considered by the Committee as the *best* specific treatment available for the postexposure prophylaxis of rabies in man. Although experience indicates that vaccine alone is sufficient for mild exposures, there is no doubt that here also the combined serum-vaccine treatment will give the best protection. However both the serum and the vaccine can cause deleterious reactions. Moreover, the combined therapy is more expensive; its use in mild exposures is therefore considered optional. As with vaccine alone, it is important to start combined serum and vaccine treatment as early as possible after exposure, but serum should still be used no matter what the time interval. Serum should be given in a sigle dose (40 IU per kg of body weight) and the first dose of vaccine inoculated at the same time. Sensitivity to the serum must be determined before its administration.

of 1.0 ml of duck embryo vaccine be given a month apart and be followed by a booster injection of 1.0 ml of vaccine seven months after the second injection. The vaccine should be injected into the lateral aspect of the upper arm. This series of injections produces a significant level of neutralizing antibodies within 30 days after the final dose in the vast majority of individuals. Schnurrenberger and associates[13] showed that doses as small as 0.2 ml of duck embryo vaccine provided good antibody responses if the vaccine was administered intradermally. However, this method of administration, being difficult to perfect, is not recommended for routine use. The administration of rabies vaccine *before* exposure is recommended for certain "high risk" groups including veterinarians; veterinary medical students; laboratory workers and researchers working with infected material, dog collection and shelter personnel; cave explorers; wild life and conservation personnel; and members of the Armed Forces and Peace Corps Volunteers with overseas assignments. Perhaps mail carriers, garbage collectors and meter readers should be included in these high risk groups since they suffer frequent dog bites in their respective occupations. Persons receiving preexposure rabies immunization should have their sera tested for antibodies a month after the last injection. A person with adequate preexposure rabies immunization should receive one booster injection of vaccine after mild reexposure or five daily doses of vaccine plus a booster dose 20 days later following severe reexposure. If the antibody response following primary preexposure vaccine is unknown, the usual postexposure treatment regimen should be used.

POSTEXPOSURE IMMUNIZATION

According to the Public Health Service Advisory Committee on Immunization Practices,[14] every exposure to possible rabies infection must be individually evaluated. Following are some of the factors to be considered: (1) carnivorous animals (foxes, skunks, coyotes, racoons, dogs and cats) and bats are more likely to be infective than other animals; (2) an unprovoked attack by an animal is more likely to indicate the animal is rabid than an attack provoked while feeding, handling or playing with a healthy animal; (3) an adult animal, having received one or more doses of rabies vaccine, has only a minimal chance of developing rabies and transmitting the virus; (4) the presence of rabies among domestic animals or wildlife within a given region; and (5) the risk of developing rabies is greater with severe, rather than mild, exposure as based on the location and extent of the wounds. Any dog or cat that bites a person should be confined by a veterinarian for ten days. If the animal becomes ill, the patient's physician and the health department should be notified. If the animal dies, its head should be refrigerated and sent to the State Health Department Laboratory for examination. Physicians should consult with veterinarians more frequently about what constitutes rabies exposure, the management of the offending animal and recommendations for postexposure treatment.

Without question, the most authoritative source of recommendations for postexposure treatment is that of the World Health Organization Expert Committee on Rabies.[15] These recommendations are summarized in Table 1. Specific information about treatment of the local wound and the administration of duck embryo rabies vaccine and antirabies serum have been discussed elsewhere in this paper. One should not forget that, where indicated, antitetanus prophylaxis and antibiotics may be indicated in wound management.

FUTURE DEVELOPMENTS

More research on rabies is needed. Some future developments which may influence treatment are the development of better modified live virus and inactivated virus vaccines; improvement of currently available vaccines to further minimize the risk of postvaccinal paralysis; improved dosage schedules for administering rabies vaccines; the development of antirabies serum from human sources; and the discovery of viricidal chemotherapeutic agents for prophylaxis and for the treatment of clinical rabies infections.

SUMMARY

The early history of rabies treatment, including the development of the Pasteur rabbit nerve tissue vaccine, is reviewed. Recent developments in local wound treatment, duck embryo rabies vaccine and antirabies serum from equine sources are discussed in detail. Preexposure immunization in high risk groups is an important new concept. The World Health Organization recommendations for postexposure treatment are the best currently available. Future developments that possibly may influence prophylaxis and treatment include better vaccines, improved dosage schedules, antirabies serum from human sources and the development of viricidal chemotherapeutic agents.

(Continued on page 659)

M. DONALD McFARLAND, M.D., ***Kansas City***

A Clinical Trial of Furosemide in Patients With Congestive Heart Failure

A study of the effectiveness of the new drug, furosemide, in the treatment of 13 patients with congestive heart failure. In general, the patients were refractory to other diuretics, including thiazides and mercurials, but all responded to this drug. Mild transient side effects were reported by only three patients. Results indicate that furosemide is a highly effective, well-tolerated diuretic agent in patients with this disorder. The author is a member of the Executive Staff at St. Luke's Hospital and an Instructor in Medicine at the University of Kansas Medical School in Kansas City, Kan.

THE INTRODUCTION OF CHLOROTHIAZIDE in 1957 greatly facilitated the treatment of patients with congestive heart failure. However, the benzothiadiazine derivatives subsequently developed have not shown clinically significant advantages over the parent compound, and it is now generally agreed that all members of the thiazide "family" produce essentially identical effects when administered at equivalent doses. Recently, there has been increasing interest in a new diuretic, furosemide.* Its use in treating patients with congestive heart failure has been described in several published reports.

Hutcheon *et al*[1] compared the therapeutic efficacy of furosemide with that of polythiazide in a short-term study of 20 ambulatory patients. A well-defined, dose-response relationship was seen with increasing doses of furosemide, but the weight loss in response to 4 mg of polythiazide was not markedly superior to that seen at a daily dose of 2 mg. On the basis of weight loss in response to the maximum doses used, furosemide was 1.54 times as effective as polythiazide under the conditions of this assay. This difference was significant.

Verel *et al*[2] provided a detailed comparison of furosemide with hydrochlorothiazide, cyclopenthiazide, chlorthalidone, triamterene and mersalyl in 14 hospitalized patients with congestive heart failure. In all 14 patients, furosemide proved to be more effective than the other diuretics tested.

No significant changes in serum electrolytes were seen in patients receiving 80 or 100 mg of furosemide on alternate days. However, symptomatic hyponatremia was seen in two resistant patients who were given 160 mg daily in combination with spironolactone. Furosemide also was administered to four outpatients continously for periods of 15 months without evidence of toxicity.

The use of furosemide in treating patients with congestive heart failure is futher described in other published reports.[3-5] The present study was undertaken to assess the long term effects of the drug in private, ambulatory patients.

MATERIALS AND METHODS

Seventeen patients were selected from private practice for the study. Since four were subsequently lost to follow-up or were subjected to an inadequate therapeutic trial (21 days or less), the results in 13 patients are described.

There were five men and eight women ranging from 43 to 88 years of age. Eleven patients were 60 years of age or older. Congestive heart failure was present in 12 patients. Associated disorders included arteriosclerotic heart disease (nine patients), gastrointestinal ulcers or diverticuli (four patients), diabetes mellitus (two patients), history of myocardial infarction (four patients), as well as asthma, emphysema, acute pulmonary edema, angina pectoris and prostatic cancer. Ten of these patients had been under treatment with other diuretics.

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* Furosemide (Lasix®), supplied by Hoechst Pharmaceutical Co., Cincinnati, Ohio.

TABLE 1

Patient	Age	Sex	Diagnosis	Previous Diuretics	Furosemide Dosage (mg./day) INITIAL	FINAL	Duration (days)
2	76	F	CHF, ASHD	Thiazide, Spironolactone	80	120	339
4	77	M	CHF, ASHD	Thiazide, Mercurial	120	40	215
5	43	M	CHF	Thiazide, Mercurial	80	120	311
6	78	F	CHF, ASHD	Thiazide	80	80	272
7	88	M	CHF, ASHD	Thiazide, Triamterene	80	80	30
8	64	M	ASHD	Thiazide, Spironolactone	80	20	252
9	49	F	CHF	Triamterene	80	40*	184
10	70	F	CHF	Thiazide, Spironolactone	40	120	182
11	72	F	CHF, ASHD	None	40	120	208
12	81	F	CHF	Thiazide	40	40	129
13	66	F	CHF, ASHD	None	40	40	135
14	62	M	CHF, Acute Pul. Edema	Thiazide	80	120	133
15	75	F	CHF, ASHD	None	40	80	129

* This dose was administered on alternate days.

Before inclusion in the study, a complete physical examination was performed and the indicated laboratory tests were conducted. These included a complete blood count, fasting blood sugar, BUN, serum potassium and urinalysis.

Therapy with furosemide was initiated at daily doses ranging from 40 to 120 mg. One patient received the drug parenterally on the first day of treatment, but in all other instances the drug was given orally. The initial dose was subsequently adjusted according to the response of the patient. Therapy was continued for periods of one to 11 months (average, six months). At the conclusion of the study, the daily dose ranged from 20 to 120 mg.

A description of these patients and of furosemide therapy is presented in Table 1.

Results

The primary elements of the response to therapy are shown in Table 2.

None of the patients failed to show a response to furosemide. Overall evaluation of the results indicated that the drug was very effective in seven patients and moderately effective in six. Treatment with furosemide was considered to be very effective when edema was reduced or cleared completely and symptoms of breath shortness and nocturnal dyspnea disappeared. The drug was considered to be moderately ef-

TABLE 2

RESPONSE TO FUROSEMIDE THERAPY

Patient	Overall Evaluation	Peripheral Edema PRE-	POST-RX	Body Weight PRE-	POST-RX	Serum K (mEq./L.) PRE-	POST-RX	BUN (mg.%) PRE-	POST-RX
2	Moderately effective	2+	0	117	124	4.6	5.0	20	18
4	Very effective	0	0	170	179	3.4	4.3	58	58
5	Very effective	0	0	143	133	5.0	3.7	15	8
6	Moderately effective	1+	1+	99	85	3.9	3.9	—	—
7	Very effective	2+	—	169	160	4.3	4.1	19	62
8	Moderately effective	0	0	148	146	—	—	13	15
9	Moderately effective	3+	0	134	136	—	—	—	—
10	Very effective	2+	trace	206	192	4.7	5.5	19	13
11	Very effective	0	0	115	108	4.4	5.0	11	13
12	Very effective	3+	2+	151	143	4.2	4.3	15	31
13	Very effective	0	0	145	137	3.6	4.1	13	13
14	Moderately effective	0	0	197	204	4.5	4.1	24	24
15	Moderately effective	2+	0	98	99	5.3	4.0	21	18

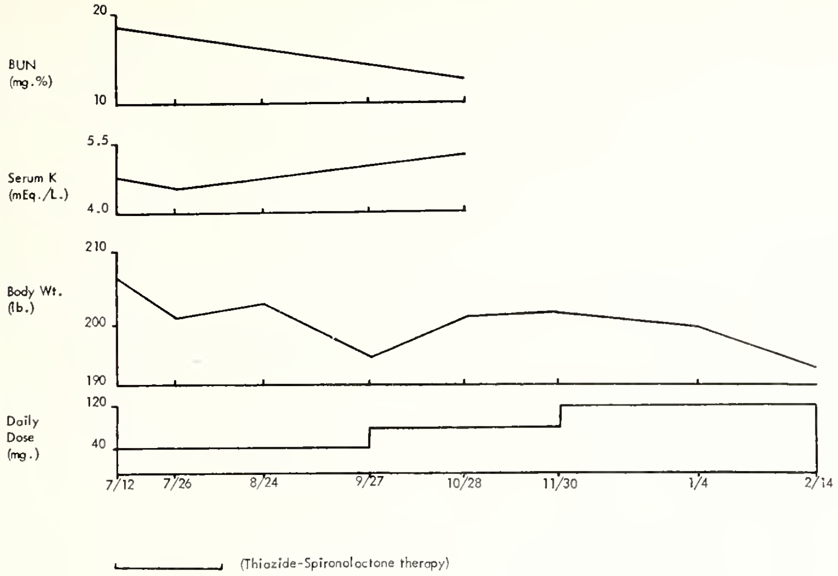

Fig. 1 Graphic presentation of course of therapy for Patient # 10.

fective if the patient became asymptomatic, even though some peripheral edema persisted. Peripheral edema was cleared completely or reduced in five of seven patients. There was no effect on edema in only one instance (patient # 6).

Eight patients lost an average of 9.0 lb, while five patients gained an average of 5.2 lb. It should be noted, however, that in some patients a gain of weight was associated with a loss of peripheral edema. Thus, in patient # 2, for example, a gain of 7 lb associated with complete clearing of 2+ edema suggests a gain of "dry" weight. Similar findings also were evident in patients # 9 and # 15. Patients # 4 and # 14 showed weight gains without developing peripheral edema.

Six patients received potassium supplements or the potassium-sparing diuretic, spironolactone, during the course of therapy with furosemide. In this group of patients, the average serum potassium level was increased from 4.1 to 4.6 mEq liter, a gain of 0.5 mEq/liter. Six other patients not receiving potassium supplements or spironolactone showed an average decrease of serum potassium from 4.7 to 4.1 mEq/liter or a reduction of 0.6 mEq/liter.

Blood urea nitrogen levels were increased in four patients, decreased in four and remained unchanged in three patients. The only patient showing a marked increase (# 7) had cancer of the prostate with metastases.

The nature of the response to furosemide may best be illustrated by considering patients # 10 and # 13 in some detail.

Patient # 10 was a 70-year-old woman with congestive heart failure, arteriosclerotic heart disease, a ten-year history of diabetes mellitus and an atonic colon with diverticuli. She had been treated with thiazides alone and in combination with spironolactone. Since ankle edema persisted with the thiazide-spironolactone combination, furosemide was added to the regimen at a dose of 40 mg/day on July 12, 1966. By July 26, her 2+ ankle edema had been reduced to a trace and she had lost six pounds. She reported that she had used all of her thiazide-spironolactone tablets by Aug. 24, and the prescription was not renewed. At this time, her ankle edema had cleared completely and she generally felt better. On Sept. 27, there again was a trace of ankle edema which she attributed to being on her feet more. The dose of furosemide was increased to 80 mg/day. This dose was then continued throughout the course of therapy. She continued to improve, although there were transient episodes of slight edema. When last seen on Feb. 14, 1967, she had lost a total of 14 lb. There were no side effects attributable to furosemide, although at her last visit, she reported that her appetite had not been good. The course of therapy in this patient is presented graphically in Fig. 1.

It will be noted that BUN levels showed a tendency to decrease with continued therapy. Serum potassium, following an initial decrease and discontinuation of the thiazide-spironolac-

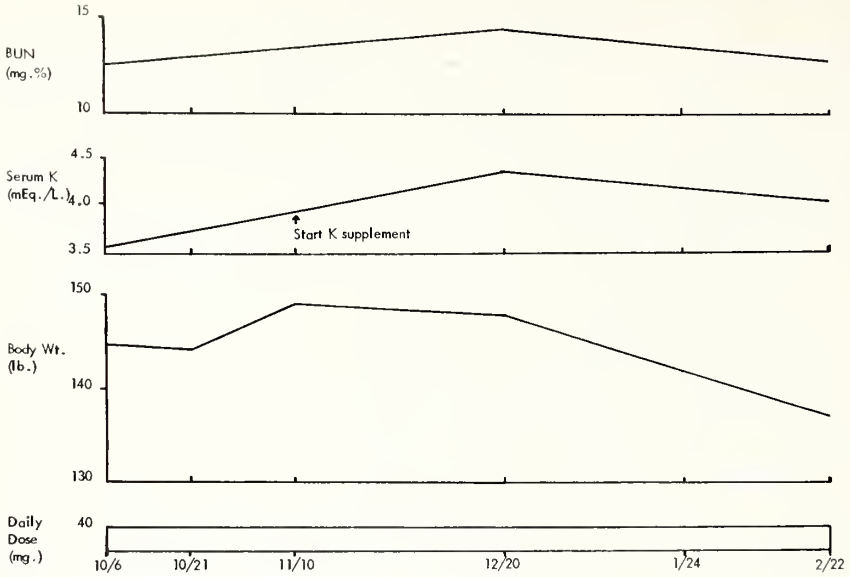

Fig. 2 Graphic presentation of course of therapy for Patient # 13.

tone combination, showed a tendency to increase. There was a slight downward trend of fasting blood sugar (198 to 186 mg/100 cc) during the course of therapy. No change of her anti-diabetic regimen was necessitated, even though the history suggested that the thiazides alone had aggravated her diabetes.

Patient # 13 was a 66-year-old woman with early congestive heart failure and arteriosclerotic heart disease. She had not been treated with diuretics. When first seen on Oct. 6, 1966, she reported exertional dyspnea. There was no edema of the extremities. Furosemide was started at a daily dose of 40 mg. Two weeks later, she reported that she still felt rather weak. A potassium supplement was prescribed, although there was no hypokalemia. The dose of furosemide was continued without change. On Nov. 10, she reported that her shortness of breath and weakness were greatly improved. Improvement continued, dyspnea cleared completely and there had been a total weight loss of 7.5 lb when she was last seen on Feb. 22, 1967. The course of therapy in this patient is shown graphically in Fig. 2.

There were no side effects and no significant changes in BUN or serum potassium.

The only side effects reported in this study were dryness of the mouth, constipation and joint pains. It was not necessary to discontinue furosemide in any of the three patients since these reactions were mild and transient.

Complete blood counts and urinalyses, as well as liver function tests (SGOT and/or SGPT), showed no evidence of furosemide-induced abnormalities.

DISCUSSION

Our results indicate that furosemide is a highly effective, well-tolerated diuretic agent in patients with congestive heart failure. Ten of the 13 patients studied had been under treatment with thiazides, spironolactone, triamterene or mercurials alone or in various combinations prior to the use of furosemide. Our clinical impression was that, in nearly every instance, the response had been inadequate or therapy had been limited by side effects. Although, in general, these patients were refractory to other diuretics, none of them failed to respond to furosemide.

This high degree of therapeutic efficacy, which may be attributed to the fact that furosemide inhibits filtrate reabsorption in the ascending limb of the loop of Henle as well as in the proximal and distal segments of the renal tubule,[6-8] is associated with an unusually wide dosage range. We found it to be effective and well tolerated in doses as small as 20 mg/day in one patient and as large as 120 mg/day in another. This unusually wide range permits considerable versatility in dosage adjustment, allowing greater degree of control of diuretic response not available with the therapy previously employed.

Remarkably, no fluid or electrolyte imbalances occurred in this series. Side effects occurred in only three patients. Of these, only the report of dryness of the mouth would appear to be attributable to furosemide. A drug-effect relationship could not be established with respect to the report of constipation or to that of joint pains.

Constitution and By-Laws

of the

Missouri State Medical Association

Adopted 1903

1968 Revision

515 EAST HIGH ST. JEFFERSON CITY, MO. 65101

Constitution

Article I. Name of the Association

The name and title of this organization shall be the Missouri State Medical Association.

Article II. Purpose

The purpose of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

Article III. Membership

Membership in this Association shall be limited to and include all members in good standing in component societies which hold charters from this Association.

Article IV. House of Delegates

The House of Delegates shall be the legislative body of this Association and shall consist of delegates elected by the component societies. It shall elect a Speaker and Vice Speaker from its body. Its Secretary shall be the Secretary of the Missouri State Medical Association.

Article V. Council

The Council shall be the executive body of this Association when the House of Delegates is not in session. It shall be the judicial body of the Association when matters are referred to it for decision by the Association, by component societies or by individual members thereof. It shall consist of the President, President-Elect, Immediate Past-President, Secretary, Treasurer and the duly elected Councilors from each Councilor District. Nine members shall constitute a quorum.

Article VI. Sessions and Meetings

Section 1. The Association shall hold an Annual Session at a place fixed by the House of Delegates, the time of which shall be fixed by the Council.

Sec. 2. Special meetings of the Association or of the House of Delegates may be called by a two thirds vote of the Council and shall be called upon a petition signed by members equal in number to one third of the total number of delegates certified for the last Annual Session.

Article VII. Officers

Section 1. The officers of this Association shall be a President, a President-Elect, three Vice Presidents, a Secretary, a Treasurer, a Speaker and a Vice Speaker of the House of Delegates and ten Councilors selected as provided for.

Sec. 2. All officers except Councilors shall be elected annually. The terms of Councilors shall be two years. Half of the membership of the Council shall be elected each year. The Secretary and the Treasurer shall be elected by the Council. The delegates present from each Councilor District shall meet prior to the last day of the Annual Session and elect the Councilor from that district. In the event of death, resignation or removal of any Councilor, the Council may appoint a successor to serve until the vacancy is filled at the next Annual Session. All of the officers shall serve until their successors are elected and installed.

Article VIII. Funds, Expenses and Budget

Funds shall be raised by a per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

Article IX. Referendum

At any General Meeting of the Association it may, by a two thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all members of the Association shall determine the question.

Article X. Seal

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

Article XI. Amendments

The House of Delegates may amend any article of this Constitution by a two thirds vote of the delegates present and voting at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been published twice during the year in the Journal of this Association or sent officially to each component society at least two months prior to the meeting at which final action is to be taken.

By-Laws

CHAPTER I. MEMBERSHIP

Section 1. Members of this Association shall be physicians whose names have been certified by secretaries of component societies to the Secretary of this Association that they are duly elected members of a component society and are legally qualified physicians practicing in Missouri except as otherwise provided. Each member must be a citizen of the United States, of good moral and professional standing, and must not support, nor practice, nor claim to practice any exclusive system of medicine.

Sec. 2. No person who is under sentence of suspension or expulsion from any component society of this Association or whose name has been dropped from its roll of members shall be entitled to any of the rights or benefits of this Association.

Sec. 3. There shall be three classes of members as follow:

Active members shall be limited to those members of component societies who (1) hold the degree of Doctor of Medicine or Bachelor of Medicine, and (2) are entitled to exercise the rights of active membership in their component societies, as determined by their component societies, subject to the provisions of these By-laws.

Junior members shall be limited to those members of component societies (1) who are serving a full time internship or residency in a hospital approved by the Council on Medical Education of A.M.A., (2) and they shall continue as junior members for the first three years subsequent to the completion of accredited service.

Honor members shall be limited to Honor members of component societies, which societies have requested that active members who have reached advanced years and have long served the Association and the profession be made Honor members of the Association. They shall enjoy all the privileges of active membership and shall be exempt from the payment of dues.

Sec. 4. **Associate members** shall be limited to persons not provided for in the various classes of membership who are engaged in the pursuit of a medical or allied science, and by action of the component societies, become Associate members of the Association. This shall include physicians who meet medical examiners' qualifications but have not received their citizenship, these Associate members to apply for Active membership within one year after citizenship is granted. Associate members shall have the right to attend scientific sessions and such other privileges as may be extended to them by the House of Delegates. They shall not be eligible to vote and shall be exempt from the payment of dues.

CHAPTER II. GENERAL MEETINGS

Section 1. The General Meetings shall be open to all registered members and guests.

Sec. 2. Any paper read before this Association shall be considered for publication in the Journal if the Author so desires. Such papers may be given publication priority over regularly submitted papers but shall be subject to the same editorial review and selection policies.

Sec. 3. No person in the active practice of medicine in the State of Missouri shall appear on the program of the Association unless he or she is a member of the Missouri State Medical Association or an affiliated association or organization.

CHAPTER III. HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session. It shall remain in continuous session on the first day of the Annual Session and complete the work coming before it at that session. It shall meet on the last day of the Annual Session to receive the report of the Nominating Committee and complete unfinished business and the election of officers. No new business shall be introduced at the last session without the unanimous consent of the delegates.

Sec. 2. Each component county society shall be entitled to send each year one delegate or one alternate to the House of Delegates for each fifty full paid members or fraction thereof in the Association on December 31 of the previous year, plus one additional delegate or alternate for each one hundred members or a major fraction thereof; provided, however, that each component society which is composed of two or more county societies shall be entitled to at least one delegate from each of the counties of which it is composed; however, such delegates must reside or practice in the county they represent. Alternate delegates may be elected from the entire membership of the component medical societies.

Sec. 3. Forty delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. From among members of the House of Delegates the Speaker shall appoint reference committees to which reports and resolutions, on a majority vote of the House of Delegates, shall be referred as follows:

Reference Committee on Amendments to the Constitution and By-laws.

Reference Committee on Resolutions.

Reference Committee on Miscellaneous Affairs.

Reference Committee on Medical Education and Public Welfare.

Reference Committee on Reports of Officers.

The Speaker may appoint such other reference committees as he may deem necessary, upon approval of the House of Delegates.

The President shall appoint a Committee on Credentials.

Sec. 5. The House of Delegates shall elect delegates and alternates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-laws of that body.

Sec. 6. The House of Delegates shall divide the state into Councilor Districts specifying what counties each district shall include and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society of which all members of the component county societies shall be members.

Sec. 7. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate on their reports.

Sec. 8. The House of Delegates shall receive and act upon a complete and detailed annual audit of receipts and expenses of the preceding year and a proposed budget for the current calendar year which shall have been prepared by the Council and submitted to the component county societies at least four weeks prior to the Annual Session. These shall be published in the Journal.

Sec. 9. The following shall be the general order of business of the House of Delegates for the first meeting of the session:

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll call.
4. Reading and adoption of minutes.
5. Report of officers.
6. Report of committees.
7. Unfinished business.
8. New business.

The following shall be the general order of business of the House of Delegates for the last meeting of the session:

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll call.
4. Reading and adoption of minutes.
5. Report of the Nominating Committee.
6. Election of officers.
7. Reports of officers.
8. Reports of committees.
9. Unfinished business.
10. New business (see Sec. 1, Chap. III).
11. Installation of officers.
12. President's appointments and installation of members to committees.
13. Selection of the place for the next Annual Session.

At any meeting of the House of Delegates, the order of business may be changed by a two thirds affirmative vote of the members present and voting.

Chapter IV. Election of Officers

Section 1. The President on the first day of the Annual Session shall select a Committee on Nominations consisting of ten delegates, no two of whom shall be from the same Councilor District. The Committee on Nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of one member for each of the offices listed in Article VII of the Constitution which are to be filled at that Annual Session excepting the President-Elect who shall be nominated from the floor of the House of Delegates.

Sec. 2. All elections of officers shall be by acclamation unless ballot is called for. A majority of the votes cast shall be necessary to elect except for delegates and alternates to the American Medical Association, who shall be elected as follows:

In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the votes, the nominees shall be declared elected in the order of the highest number of votes received until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

In case no nominee for general offices of the Association (see Article VII, Constitution) receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected.

Sec. 3. Nothing in this chapter shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates.

Sec. 4. Delegates present at the Annual Session from Councilor Districts whose Councilors' terms expire shall hold meetings on or before the morning of the last day of the Annual Session and elect a Councilor for their District for a term of two years. The name of the elected Councilor shall be given on a prescribed form to the Secretary for presentation to the House of Delegates. Each candidate for Councilor must reside or practice in the district for which he is elected.

Sec. 5. The Speaker and Vice Speaker shall not serve more than three consecutive terms.

Sec. 6. The Speaker shall appoint a parliamentarian to serve as such during the session of the House of Delegates at each Annual Session and upon whom the Speaker may call before deciding points of order or procedure.

CHAPTER V. DUTIES OF OFFICERS

Section 1. The **President**, or his designated representative, shall preside at all scientific sessions of the Association. He shall preside at the House of Delegates in the absence of the Speaker or Vice Speaker and until their successors are elected. He shall appoint all committees not otherwise provided for. He shall deliver an annual address at such time as may be arranged and shall perform such other duties as custom or parliamentary usage requires. He shall be the real head of the profession of the state and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The **President** and the **President-Elect** shall be members of the Council and shall attend all meetings of the Council. Should the office of President-Elect become vacant through death or otherwise the Council may fill the vacancy until the next Annual Session of the Association.

Sec. 3. The **Vice Presidents** shall assist the President in the discharge of his duties. In the event of the death, resignation or removal of the President the Council shall select one of the Vice Presidents to serve the unexpired term.

Sec. 4. The **Treasurer** shall give bond in the sum of $20,000. He shall demand and receive all funds due the Association, together with bequests and donations. He shall pay money out of the treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his actions and of the state of the funds in his hands.

Sec. 5. The **Secretary** shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be Secretary of the Council and shall keep a record of its proceedings. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. He shall, with the cooperation of the secretaries of the component societies, keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its Secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their reports and shall collect from them the regular per capita dues and assessments and turn the same over to the Treasurer. The amount of his salary shall be fixed by the Council.

CHAPTER VI. COUNCIL

Section 1. The Council shall meet during the Annual Session at such times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session to organize. The Council shall elect a Chairman and a Vice Chairman for a term of one year. The Chairman may be reelected to serve not more than four consecutive terms of one year each. The Council shall, through its Chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exists, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district. He shall make reports of his work and the condition of the profession of each county in his district to the Council. The necessary traveling expenses incurred by each Councilor in the line of duties herein imposed may be allowed on a proper itemized statement submitted monthly and within the current year, but this shall not include his expense in attending the Annual Session of the Association. No Councilor shall be eligible for the position of Delegate to the House of Delegates during his term of office as Councilor, nor shall he vote in the House of Delegates.

Sec. 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-laws.

Sec. 4. The District Councilor together with two members of component societies within the Council District, selected by the Councilor, shall serve as a Board to hear and by a majority vote adjudicate any questions involving the right and standing of members, either in relation to other members or to component societies or to the Association, and all matters of discipline affecting the conduct of members of component societies, or other matters.

The Council shall be the appellate Board of Censors of the Association. It shall hear and adjudicate all matters on appeal from the decision of the Councilor Board; it shall hear and adjudicate matters of an ethical nature brought before the House of Delegates or the general meeting which shall be referred to the Council without discussion. On original decision or appellate determination, its decision shall be final unless appealed to the then convened meeting or the next meeting of the House of Delegates.

Sec. 5. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association. Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-laws.

Sec. 6. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designed so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 7. The Council shall provide for and supervise the issuance of all publications of the Association including proceedings, transactions and memoirs, and shall have authority to appoint an Editor and such assistants as it deems necessary. It shall prescribe the methods of accounting and through a committee of three of its members, to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget providing for the necessary expenses of the Association for the following calendar year. This budget shall be prepared and presented for consideration in the last quarter of each year by the Committee on Auditing and Appropriations. A complete and detailed report shall be submitted to the component county medical societies as provided in Section 8, Chapter III. The Council shall submit an annual report of the House of Delegates which shall specify the character and cost of the publications of the Association, the amount and character of all its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

Sec. 8. The Council shall appoint at least six months before the Annual Session, a committee consisting of three of its members to be known as the Committee on Arrangements for the Annual Session. On recommendation of the Committee, the Council shall appoint a general chairman of a Local Committee on Arrangements, who shall be a member of the component society of the county in which the Annual Session is to be held, and who shall appoint and organize from the members of this county society the personnel of the Local Committee on Arrangements. The Local Committee on Arrangements shall provide suitable meeting places and shall have general charge of all local arrangements subject to the approval of the Committee on Arrangements for the Annual Session. All receipts and disbursements related to the Annual Session shall be handled by the Committee on Arrangements on recommendations of the Committee on Budget and Appropriations.

Sec. 9. The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between Annual Sessions of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

Sec. 10. The salaries of all employees of the Association shall be fixed by the Council.

Sec. 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

Sec. 12. The Council shall be empowered to elect an Executive Secretary and Assistant Executive Secretary and such other personnel as may be necessary, who need not be members of the Missouri

State Medical Association, each of whom shall perform such duties as the Council may designate and receive such salary and serve for such periods and under such conditions as the Council may determine.

CHAPTER VII. COMMITTEES

Section 1. The Committees of the Association shall be standing committees and special committees.

Sec. 2. The standing committees, unless otherwise provided in these By-laws, shall consist of five members serving three year terms and shall be:

A Committee on Scientific and Postgraduate Work.
A Committee on Publication.
A Committee on Medical Defense.
A Committee on Medical Education and Hospitals.
A Committee on Medical Economics.
A Committee on Cancer.
A Committee on Maternal Welfare.
A Committee on Infant and Child Care.
A Committee on Mental Health.
A Committee on Constitution and By-laws.
A Committee on Control of Venereal Disease.
A Committee on Trauma.
A Committee on Eye Health.
A Committee on Diabetes Mellitus.
A Committee on Anesthesiology.
A Committee on Laboratory Medicine.
A Committee on Disaster Medical Care and National Defense.
A Committee on Physical Medicine and Rehabilitation.
A Committee on Aging.
A Committee on Radiology and Ionizing Radiation.
A Committee on Public Service.
A Committee on Legislative Matters.
A Committee on Interspecialty Medicine.

The Committee on **Scientific and Postgraduate Work** shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each Annual Session subject to the instructions of the House of Delegates. The Committee shall provide speakers for district society meetings as requested.

The Committee on **Publication** shall be appointed annually by the Council and shall be responsible for general publication and distribution policies of the Journal. The Editor of the Journal shall be designated by the Council and shall also serve as chairman of the Committee on Publication. The Editor shall be empowered to nominate an Editorial Board, consisting of members of the Association and subject to approval by the Council. The members of the Editorial Board will assist the Editor in soliciting, preparing and reviewing material for publication of the Journal.

The Committee on **Medical Defense** shall, upon request accompanied by complete history of the case and copy of plaintiff's petition if filed, advise and aid any member in good standing who has had filed against him individually a civil malpractice suit and may recommend assistance in defraying costs to an amount not to exceed $300.00. The Association shall not be obligated to pay, nor shall it pay, either in whole or in part, any sum agreed upon in compromise, nor any judgment or part thereof, nor shall it pay any of the costs of taking depositions nor any court costs. No member shall be entitled to this defense should the charge of malpractice be brought jointly against him and a hospital or sanatorium in which he is, or at the time of the alleged malpractice, was financially interested.

The Committee on **Medical Education and Hospitals** shall serve in the state for the Council on Medical Education and Hospitals of the American Medical Association and shall have referred to it all questions pertaining to hospitals and medical education.

The Committee on **Medical Economics** shall investigate matters affecting the economic status of medicine and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

The Committee on **Cancer** shall investigate the facilities provided for the care of the cancer sufferer and for the study of cancer in the State of Missouri and shall cooperate with the American Society for the Control of Cancer and other ethical organizations for cancer control to the end that authentic information in regard to diagnosis and treatment of cancer be properly disseminated throughout the State of Missouri.

The Committee on **Maternal Welfare** shall keep in touch with and investigate matters concerning maternal and child welfare. It shall carry on activities in the field of maternal and child welfare and in cooperation with the Committee on Scientific and Postgraduate Work and the Division of Child Hygiene of the State Division of Health shall conduct postgraduate courses for the profession and disseminate information of an educational nature.

The Committee on **Infant and Child Care** shall consist of ten members, one from each of the ten Councilor Districts, appointed annually by the President. The Committee shall concern itself with the betterment of infant and child care and shall be a liaison with the Bureau of Child Hygiene of the State Division of Health. The Committee shall study and make recommendations regarding various public, private and parochial school health programs in this state.

The Committee on **Mental Health** shall be composed of ten members not all of whom are specialists in psychiatry and shall engage in the promotion of good mental health, the prevention of mental ill health and lend its support toward securing cooperation of all state or governmental agencies in obtaining better treatment of the mentally ill. It shall cooperate with the Committee on Mental Health of the American Medical Association and with the Division of Mental Diseases of the State of Missouri.

The Committee on **Constitution and By-laws** shall propose such amendments to the Constitution and By-laws as are deemed wise and expedient, and bring before the House of Delegates such amendments as it or other members of the Association may present for consideration.

The Committee on **Control of Venereal Disease** shall review the available information on the venereal disease problem, assemble additional information concerning the nature and extent of the facilities which now exist for the diagnosis, recommend such supplemental and new state or local facilities and measures as seem desirable in dealing with these infections and to cooperate fully with the State Division of Health and the United States Public Health Service in carrying out such venereal disease programs as have been or may in the future be established.

The Committee on **Trauma** shall disseminate information regarding the current and approved methods of handling trauma and stimulate interest therein, such information to be disseminated to licensed practitioners of medicine and to lay groups approved by the Committee. It shall correlate its programs with those of the Committee on Scientific and Postgraduate Work. The chairman of the Committee shall have the right to appoint three junior members to work under his direction.

The Committee on **Eye Health** shall promote and maintain an educational program in each Councilor District, before medical and lay audiences, relative to ocular hygiene, conservation of eyesight and prevention of blindness. It shall correlate its program with that of the Committee on Scientific and Postgraduate Work and the local, state and national associations or societies for the prevention of blindness. The Committee may have associate members as the Committee may deem advisable.

The Committee on **Diabetes Mellitus** shall keep in touch with and investigate matters concerned with diabetes mellitus and carry out such activities as may be deemed appropriate.

The Committee on **Anesthesiology** shall study matters concerned with anesthesiology and carry out such activities as may be deemed appropriate.

The Committee on **Laboratory Medicine** shall study all matters pertaining to pathology including the following subdivisions: postmortem pathology, surgical pathology, exfoliative cytology, medical bacteriology, parasitology, virology, mycology, serology, hematology, chemistry, toxicology, clinical microscopy and blood banking. On the basis of such studies, the Committee shall report annually to the House of Delegates and to the Council whenever necessary and shall make such recommendations as may in its judgment seem proper.

The Committee on **Disaster Medical Care and National Defense** shall consist of ten members of the Association, appointed annually by the President, one from each of the ten Councilor Districts, and in addition, any other members who are interested in the medical aspects of disaster medical care and national defense. The Committee shall concern itself with the development of disaster medical care and national defense operations in the state and shall cooperate with public officials and private organizations in the furtherance of disaster medical care and national defense activities.

The Committee on **Physical Medicine and Rehabilitation** shall consider matters concerned with physical medicine and with rehabilitation, including vocational rehabilitation.

The Committee on **Aging** shall consider matters concerned with the problem of our aging population in relation to health care.

The Committee on **Radiology and Ionizing Radiation** shall consider matters concerned with radiology and ionizing radiation and shall disseminate information regarding the use of radiology and ionizing radiation to physicians and other interested groups in this state.

The Committee on **Public Service** shall concern itself with promoting good relations between the profession and the public, and to act to represent the Association in matters of public affairs. It shall cooperate with similar committees of the county medical societies in order to disseminate information to the public regarding the science and art of medicine and the protection of public health.

The Committee on **Legislative Matters** shall consist of five members of the Association, appointed annually by the President. The Committee shall consider legislative matters affecting the practice of medicine and public health and shall make recommendations to the Council and the House of Delegates.

The Committee on **Interspecialty Medicine** shall be composed of one representative from the presently formed statewide specialty groups listed herein and others which may be formed in the future: Missouri Ophthalmological Society; Missouri Pathological Society; Missouri Academy of General Practice; Missouri Radiological Society; Missouri Society of Internal Medicine; Missouri Surgical Society; Missouri Society of Anesthesiologists, Inc.; Missouri Academy of Psychiatry; Missouri Chapter, American College of Chest Physicians; Missouri Chapter, American Academy of Pediatrics.

The President of the Missouri State Medical Association shall appoint annually to this committee a representative from each group after consultation and recommendation by each group. This committee shall be charged with the responsibility of reviewing organizational problems with respect to scientific programs, socio-economic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this committee shall be made periodically to the Council as well as to the House of Delegates.

Sec. 3. Special committees may be appointed by the President or the Council as circumstances may demand.

Sec. 4. Associate members of standing committees may be appointed when deemed advisable. The term of such members shall be for one year.

Chapter VIII. Dues and Assessments

Section 1. (a) The annual dues of this Association shall be $52.50, which shall be applicable to each active member of the Association and shall be levied per capita on the active members of the component societies; the per capita levy for junior members shall be one half of the per capita levy for active members; honor and associate members shall not be required to pay dues. Dues shall be payable on January 1 of the year for which they are levied.

(b) An assessment of $10.00 per year on each active member of the Association and $5.00 per year on each junior member shall be applicable for a three-year period beginning in 1969. The assessment shall be payable with the dues of the Association, and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation.

Sec. 2. Three dollars of the annual dues shall be credited to the account of the Journal for each member's annual subscription. The remainder of the amount shall be credited to the general fund of the Association.

Sec. 3. The House of Delegates may, when in its judgment the best interest of the Association demands, recommend an assessment on each active member. Such assessment shall be levied only by consent of two thirds of the members of the House of Delegates present and voting. Funds obtained from such special assessments shall be allocated only for the purposes for which such assessment is levied and in accordance with substantiating budgets. Unexpended balances from such assessments must be reported to the House of Delegates for re-allocation.

Sec. 4. The secretary of each component society shall cause to be collected and remitted to the Treasurer of this Association the per capita levies. Any member whose name has not been reported for enrollment and whose dues have not been remitted to the Treasurer of this Association on or before March 1 shall stand suspended until his name is properly reported and his dues for the current year are paid. On December 31 of each year, members delinquent in payment of dues, and assessment if such has been made, or any part thereof shall, ipso facto, forfeit their memberships. No suspended member shall be eligible to register at an annual session.

Chapter IX. Rules of Conduct

The ethical principles governing the members of the American Medical Association shall govern members of this Association.

Chapter X. Rules of Order

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in *Robert's Rules of Order*.

Chapter XI. County Societies

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-laws shall have been submitted to the Council and received its approval.

Sec. 2. Only one component medical society shall be chartered in each county.

Sec. 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who resides or practices in the same county, who shall apply for membership on the prescribed form and subscribe for the Journal and pay the annual dues and assessments for the current year, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

The Council may upon request of a component society remit the state dues and assessment of a member who has become totally and permanently incapacitated through mental or physical disability and has been a member in good standing during the three consecutive years immediately preceding his disability; provided, that the component society shall remit the county society dues of such member.

The Council may, upon request of a component society, remit the state dues and assessments of a deserving member, found to fall within what is classified as a hardship case, during the period of said hardship until such time as the dues again become payable; provided that the component society shall remit the county society dues of such member.

The Council may, upon the request of a component society, waive the dues of any member in good standing for such a period as the member is serving in the Armed Forces of the United States of America, or similar service with any of the allies of the United States, and for six months thereafter.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him shall have the right to appeal to the Council whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

Sec. 5. In hearing appeals the Council may admit oral or written evidence or both as in its judgment will most fairly present the facts.

Sec. 6. When a member in good standing in a component county society moves to another county in this state, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period for which his dues have been paid.

A member of a component society who moves to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the Secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he becomes a member of the component society in the county to which he has moved.

Sec. 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

Sec. 8. At some meeting in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2 of these By-laws. The secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least sixty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Sec. 9. The secretary of each county society shall keep a roster of its members and, if practicable, a list of non-affiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary by the Council. He shall send a copy of the program of each meeting to his district councilor and to the Secretary of the State Association.

Sec. 10. Any county component society, in a manner approved by the State Association, or the State Association with the consent of the county society or societies affected, may undertake, organize and put into effect plans for the medical care of indigent persons or indigent groups, and low income groups, by agreements with physicians, public officials or others and by the use of contributions, cooperative funds or other means; provided, however, that a free choice of the available and participating physicians in that territory shall be allowed to the patient and that all relationships, legal or otherwise, between the physician and the patient shall be and remain as though it were strictly an individual employment.

Chapter XII. Amendments

Section 1. These By-laws may be amended at any Annual Session by a two thirds vote of the delegates present and voting at that session, if the proposed amendment has been properly submitted to the House of Delegates and has laid on the table for one day.

Sec. 2. Upon the adoption of this Constitution and these By-laws all previous constitutions and by-laws are thereby repealed.

On the basis of these findings, it is evident that furosemide is well tolerated.

Summary

Thirteen patients with congestive heart failure were selected from private practice for treatment to evaluate the long-term effects of a new diuretic, furosemide. There were five men and eight women with an average age of 62 years. Ten of these patients had been under treatment with other diuretics, including thiazides and mercurials. The initial dose of furosemide ranged from 40 to 120 mg. The dose was then adjusted in accordance with the response of the patient as therapy was continued for periods of one to 11 months (average, six months).

None of the patients failed to respond to furosemide. The drug was considered to be very effective in seven patients and moderately effective in six. Peripheral edema was cleared completely or reduced in five of seven patients in whom it had been present prior to furosemide therapy. Eight patients lost an average of 9.0 lb, while five patients gained an average of 5.2 lb. In the latter instances, however, weight gains appeared to represent "dry" weight since they were associated with either a reduction or no increase of edema. Mild transient side effects (dryness of the mouth, constipation, joint pains) were reported by three patients. No significant electrolyte disturbances were observed and there was no clinical or laboratory evidence of toxicity. On the basis of these findings, it is concluded that furosemide is a highly effective, well-tolerated diuretic for use in patients with congestive heart failure.

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Rabies Immunization (Cont'd)

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Epidemiological Concepts Relative to Cancer of the Oral Cavity

INTRODUCTION

The discussion of the management of advanced lesions must begin with the subject of epidemiology since the best medical results will be obtained when these lesions are either prevented, diagnosed early or attacked before they reach advanced stages of clinical development. Simultaneously, the existing problem of the treatment of patients with advanced lesions must be under constant revision until the problem is solved. Today, we know that the various principal treatment modalities are not satisfied with the low cure rate and the side effects that each method available produces. Discontent is clearly expressed in the literature by the low five-year survival rate and other depressing statistical evidence. However, radiotherapists and radiobiologists are examining new time-dose relationships and radiosensitivity factors in search of better treatment schedules, while chemotherapists and surgeons are combining weapons with radiotherapists to find the best treatment combinations of two or more treatment modalities. The abundance of research publications on the subject is another sign of discontent with the present results of treatment.

Dr. N. H. Rowe examines here the available evidence that suggests the existence of the working hypothesis of oral carcinogenesis—the hypothesis in which susceptible tissues, carcinogen and co-carcinogen agents operate during a latent period before a lesion is born. Doctor Rowe is from the Department of General and Oral Pathology, Washington University School of Dentistry.—Ruheri Perez-Tamayo, M.D.

IN 1960, DR. LAUREN ACKERMAN[1] addressed the Fourth National Cancer Congress with the provocative title, "Is It Cancer? Will It Become Cancer?" The first question poses today's challenge to clinicians. It implies a partnership between patient, clinician and pathologist. It entails public concern about cancer, professional vigilance to detect cancer and tissue examination to accurately determine cellular behavior pathognomonic of cancer. The second question, "Will it become cancer?," is the challenge for the clinician of tomorrow.

"Will it become cancer?" is a profound and immensely important practical question. It is important from two points of view:

1. Therapy for cancer in its incipiency is easy, conservative and successful.
2. Prevention is an obviously attractive concept of cancer management.

Is prevention possible? This question should be examined relative to a working hypothesis of oral carcinogenesis which is compatible with most of the clinical features of the disease. This theory would hypothesize that oral cancer results from contact between a ubiquitous carcinogen and a susceptible tissue followed by a prolonged latent period. The latent period may be shortened by the action of promoting agents which operate during the time between initiation and appearance of the tumor.[2] Susceptibles, a result of successive cell changes, would be added to the population at a constant rate with each passing year. That all susceptibles exposed do not develop clinical cancer is interpreted as indicating that the usual latent period exceeds the usual life span. This hypothesis appears to fit the reported clinical features of oral cancer, particularly with regard to multiple primary oral carcinomas which differ from one another in both time and space. The mathematical basis for this hypothesis has been put forward by Stocks[3] in his epidemiological study of lung cancer in Belfast, Dublin, Helsinki and Oslo.

In experimental animal models, agents which act to shorten the latent period, but are themselves either weak carcinogens or noncarcinogenic, are termed promoting agents or co-carcinogens. If animal carcinogenesis models are analogous to human carcinogenesis, we should find stimuli in our environment which also act to shorten the latent period. Shortening the latent period may be highly significant. It may speed up appearance of the tumor mass so that its presence would pose a threat to life, whereas the usual latent period would otherwise be sufficiently long so that the subject would ultimately die from competitive causes but still prior to development of the tumor.

Are there substances with which man may come into contact which increase frequency of oral cancer experience? The search for evidence of these substances involves measuring cancer experience in groups of people who have prolonged contact with suspect substances. It may, instead, require a search for suspect substances among a group of people who have a disproportionately high incidence of a particular type of cancer. This biometric discipline is termed epidemiology. The epidemiologist's laboratory is the world.

Identification of an effective carcinogenic or co-carcinogenic stimulus usually requires three phases of data collection:

1. Clinical observation of increased incidence of a particular type of cancer within a given population.
2. Identification of a substance, habit or environmental peculiarity which seems to be causally related to the increased cancer observed.
3. A test population divided into two large groups as similar as possible in every way but differing completely with respect to presence of either (a) the particular type of cancer or (b) its hypothesized causative stimulus. The two groups are then compared with regard to the presence of either the cancer or stimulus, whichever was not used as the selective factor. A high degree of correlation suggests a causal relationship between the stimulus and the cancer.

Most epidemiologic studies in oral cancer, which have been reported up to the present time, are more aptly described as demographic studies because they have fulfilled phases 1 and/or 2, but seldom phase 3. Epidemiology of oral cancer is still a young science with much gold yet to refine.

Epidemiologic contributions to our understanding of cancer causation date back at least to the year 1775 when Percival Pott,[4] an English surgeon, published his historic cause and effect conclusion with regard to scrotal carcinoma in men who, as children, had been chimney sweeps. It remained for nearly a century and a half for two Japanese investigators, Yamagiwa and Ichikawa,[5] to duplicate cancer induction in a laboratory animal by repeated applications of the suspect material, chimney tar, to the ears of rabbits. Kennaway and Heiger,[6] in 1930, reported the isolation of the first chemically pure carcinogenic hydrocarbon from tar. Thus, the cycle was completed: clinical observation of abnormal cancer frequency, prolonged contact by the victims with a suspect substance, an active principle isolated that, when administered to

The Editorial Board of *Missouri Medicine* presents four papers from the proceedings of the Professional program of Ellis Fischel State Cancer Hospital and Cancer Research Center which was held in May, 1967 and which brought together outstanding speakers to discuss the management of advance squamous cell carcinomas of the oral cavity, the oropharynx and hypopharynx.

***"Epidemiological Concepts Relative to Cancer of the Oral Cavity"*—Nathaniel H. Rowe, D.D.S., M.S.D. from the Department of General and Oral Pathology, Washington University School of Dentistry.**

***"Treatment of Patients With Squamous Cell Carcinoma of the Head and Neck by Combinations of Radiation Therapy and Methotrexate"*—Paul T. Condit, M.D., from the Oklahoma Medical Research Foundation.**

***"Methotrexate and Radiotherapy in the Treatment of Advanced Squamous Cell Carcinomas of the Oral Cavity and Pharynx"*—Ruheri Perez-Tamayo, M.D. and Mercedes Soberon, M.D., from the Ellis Fischel State Cancer Hospital and Cancer Research Center.**

***"Surgery in the Role of Treatment of Advanced Oral Pharyngeal Cancer"*—Alfred S. Ketcham, M.D. from the Surgery Branch of the National Cancer Institute, The National Institutes of Health.**

In their individual papers, Doctor Rowe discusses the epidemiology of the lesions, Doctor Condit reviews the place of adjuvant chemotherapy and radiotherapy, Doctor Perez-Tamayo discusses the clinical results and toxicity encountered when using Methotrexate and radiotherapy in the treatment of the first group of patients in a pilot study at EFSCH and Doctor Ketcham reviews some of the concepts of the surgical management of the advanced lesions of the head and neck.

Each paper will be accompanied by special introductory remarks or comments by Dr. Ruheri Perez-Tamayo, Chief of Radiotherapy at the Hospital, who served as a section coordinator and moderator for the program.

laboratory animals, resulted in cancer induction. Identification of the cancer-causing potential of this substance made possible deliberate avoidance and, thereby, cancer prevention was achieved.

What are the substances which are associated with an elevated oral cancer rate? Recognized high cancer risk situations may conveniently be divided into two major groups, extrinsic and intrinsic factors. Extrinsic factors are those substances which, when applied to the surface of the oral mucosa over a sufficiently long time period, are associated with cancer induction. Intrinsic factors are those which adversely affect the internal milieu to apparently potentiate low grade extrinsic factors with cancer induction resulting at the site of the extrinsic factor insult.

Extrinsic Factor

Sunlight

Sunlight has long been suspected to be a causative factor in lip cancer on the basis that lip cancer is commonly found in farmers, sailors and others exposed to an outdoor environment for prolonged periods. Lip cancer has been reported to be four times more common in southern states than in northern states.[7] The role of latitude is even more dramatically revealed when it is realized that in the several reports on malignant tumors in Eskimos, despite the outdoor life of the hunter and fisherman, not one lip cancer has been reported.[8-16] One clinically suspicious case was noted by Rabinowitch[13] but not treated nor confirmed histologically. In the following 30 years, this lesion which occurred in an elderly man has not been included in any later series of malignant lesions from that area. It is, therefore, quite possible that the clinical impression was in error. Our unreported series in Alaskan Eskimos, derived from the files of the Alaskan Native Hospital in Anchorage, as was Hurst's[11] Series, revealed not one lip cancer (number expected, two). Combining Hurst's and our series in Alaskan Eskimos, four lip cancers would have been expected, based on incidence rates in "the lower 48 states."

Chewing Tobacco and Betel Nut

Early in this century, medical missionaries throughout coastal Southeast Asia from India to Korea began to report observations of an increased oral cancer rate and noted, also, the presence of an unusual habit, chewing betel nut.[17, 18] Controversy sprang up almost immediately because, while betel nut chewing was widespread, some areas seemingly did not appear to have a correspondingly elevated oral cancer rate.[19, 20] Most of the confusion arose from a failure to distinguish between betel nut and betel nut with tobacco quids. It has been only relatively recently that the betel chew has been examined to determine its composition and to ascertain what effect local differences might have had.[21]

In India, the quid is typically composed of tobacco in addition to areca nuts (fruit of the tropical palm, Areca catechu), betel leaf (piper betel) and lime.[22] Oral cancer rates are remarkably high in certain parts of India, accounting for 47% of all cancer cases from Bombay Cancer Hospital, 35% from Calcutta Cancer Hospital and 34% from Madras Cancer Hospital.[23]

In New Guinea, tobacco is not present in the betel chew. Atkinson,[24] in 1964, reported his observations that along the New Guinea seacoast, where the tropical Areca catechu palm thrives and chewing of its fruit is common, oral cancer incidence is higher than in the U. S., but lower than that observed in India. In the highland areas, where the palm does not grow and the indigenous population does not chew its fruit, oral cancer rates are low, approximating those of Europe and the United States. His data, in agreement with earlier reports, indicates betel chew which lacks tobacco is also carcinogenic, but less so than when tobacco is also present.

Chewing tobacco alone, without the three other ingredients of the betel chew quid, has been studied in India[22, 25] and elsewhere. Since examination of the carcinogenic potential of the various quid chew components in a country where various combinations are possible is prone to experimental error such as imperfect historical response, less error would seem likely if the study were conducted in another part of the world where the Areca catechu is not indigenous and importation of its nuts improbable. Minnesota seems ideally suited for the study conducted by Moore, Bissinger and Proehl[26] who reported a highly significant relationship between habitual chewing of snuff or tobacco for more than 20 years and cancer of the buccal mucosa, floor of the mouth and alveolar ridges ($P = .01$). Wynder's later observations in Sweden[27] and in New York[28] were in agreement with those of Moore *et al.*[26] In the Southeastern United States, Vogler *et al*[29] also found the use of tobacco in forms other than cigarettes, particularly chewing tobacco, significantly more frequent in patients with oral cancer than in the various control groups.

A biologically distinct variant of oral squamous cell carcinoma, verrucous carcinoma, was first described by Ackerman.[30] The role of chewing tobacco in the causation of this lesion has been described by many writers, among them Canadians Sorger, Myrden and Moore[31] and, recently, in an excellent paper by Kraus and Perez-Mesa in Missouri.[32]

It would appear that tobacco and also the combination of the other three ingredients of the betel chew quid both act as co-carcinogens and that their effect is independent and additive. Either tobacco chewed alone or betel chew quid lacking tobacco is carcinogenic, but less so than when they are combined.

Tobacco Smoking

Tobacco smoking has long been held in suspicion with regard to oral cancer induction. Tobacco smoking was found to be an important etiological factor by Wynder, Bross and Feldman[28] in their carefully conducted retrospective study of 659 oral cancer patients at the Memorial Center for Cancer and Allied Diseases in New York. Cancer patients were matched with benign tumor controls by sex, age and religion. They found cigar and pipe smokers ran a greater risk than did cigarette smokers for developing oral cancer. On the basis of both human and animal studies, Wynder and co-workers[28, 33] concluded that smoked tobacco was a more potent carcinogen than chewed tobacco. An excellent exhaustive review of this topic was given by the Dane, Clemmesen,[34] in 1965. His conclusions were that "a review of the evidence on the association between the smoking of tobacco and the various forms of carcinoma in the upper digestive and respiratory tract seems to leave no doubt to the medical mind of a causative relationship."

Reverse smoking, an unusual manner of smoking tobacco practiced most often by women, has been reported in India,[35, 36] Italy,[37, 38] South and Central America.[39] The glowing tip of the cigarette made of poor quality tobacco is placed inside the mouth to extend burning time and prevent it from being extinguished by wind. Temperature adjacent to the palatal mucosa of subjects practicing this method of smoking was measured by Quigley, Cobb and Hunt.[40] They found an appreciable temperature rise (up to 64°C) and transient tissue dehydration during smoking. The palates of those who practiced this manner of smoking became hyperkeratinized to appear clinically as leukoplakia with numerous tiny red punctate areas (orifices of the numerous palatal minor salivary glands) scattered throughout. Reddy and Rao[36] and others[37, 38, 41–43] have described an association between palatal carcinoma and reverse smoking.

Alcohol

Wynder *et al*[28] found heavy alcohol consumption, particularly in the form of whiskey, a significant factor in the development of cancer of any area of the mouth except the lip. Vogler's[29] study in the southern United States revealed that, among urban men, more heavy drinkers were in the oral cancer group than expected, but that the difference was not statistically significant. A French study by Schwartz, Lellouch, Flamant and Denoix[44] in 1962 demonstrated a strong positive correlation between alcohol ingestion and cancer of the tongue hypopharynx, larynx, esophagus and buccal cavity. Their results were interpreted by Clemmesen[34] to indicate that the carcinogenic effect of alcohol intake takes place independent of tobacco. The carcinogenic mechanism of action of alcohol, whether by absorption of the alcohol or by alcohol facilitating absorption of other promoting agents across the oral mucous membranes or by a systemic effect by virtue of hepatic pathosis or nutritional deficiency, remains unsolved.

Chronic Irritation

Poor oral hygiene, broken jagged teeth and malfitting dental prostheses are commonly cited as causing oral cancer. While this observation is commonly cited in the literature, statistical evidence for this conclusion is lacking. Wynder, Bross and Feldman[28] sought information to aid in clarification of this point, but found them to be "not significant factors" in the causation of oral cancer. Vogler, Lloyd and Milmore[29] reported similar nonconfirmatory findings relative to presence and "fit" of dentures. One might legitimately question the ability of nondentally-trained investigators to derive meaningful data from such subjective phenomena as poor oral hygiene and malfitting dental prosthesis. This problem should receive further investigation.

INTRINSIC FACTOR

Plummer-Vinson (Patterson-Kelly) Syndrome

In 1936, Ahlbom,[45] at the Radiumhemmet in Stockholm, Sweden, reported his observation that cancer of the upper alimentary tract and esophagus was frequently seen in women (40%), the majority of whom had Plummer-Vinson syndrome. Plummer-Vinson syndrome occurs almost exclusively in women and is characterized by hysterical dysphagia with hypochromic microcytic anemia.[46] Various oral and perioral stigmata are seen, although they may not all be present in any one patient. Glossitis, atrophic skin with perioral fissures, premature loss of teeth, as well as spoon-shaped and brittle nails have been commonly described. The syndrome has its onset early in life, often shortly after puberty, and appears to be related to diet. The majority of women reported by Ahlbom[45] and later by Wynder, Hulberg, Jacobsson and Bross[27] were lifelong residents of the rural countryside, often of northern Sweden. The diet of those affected was typically high in potatoes, cereals and dairy products and low in fresh meat, green vegetables and fresh fruit. A long standing multiple deficiency state is quite probable. Wynder *et al* concluded that "the excessive amount of upper alimentary tract cancer in Swedish women cannot be accounted for by a greater consumption of tobacco than that of women in other countries." A close relationship was found in women between Plummer-Vinson syndrome and upper alimentary, hypopharngeal and esophageal cancer.

Tabulating malignant tumors in Alaskan Eskimos recorded in the files of the Alaskan Native Hospital in Anchorage, Hurst,[11] in 1964, reported finding a greater number of esophageal carcinomas in women than in men (7:2 of 9 tumors). This finding is especially interesting in the light of Scott, Wright and Hanan's[47] earlier paper which reported anemia in Alaskan Eskimos to be widespread, of the hypochromic microcytic type and severe only in women. Examining the geographic distribution of mean hemoglobin levels in Eskimo men, it appears significant that the western, most subarctic area has the lowest mean hemoglobin levels. These are the areas from which came all of the Eskimo women with esophageal cancer reported by Hurst.[11]

Vitamin A Deficiency

Atrophy and hyperkeratinization has been described in Vitamin A deficient animals and man.[48-50] Changes of a similar nature are often found adjacent to lip cancers. A predisposition to the development of oral cancer in persons suffering from Vitamin A deficiency was suggested by Orr.[51] Orr noted that the diet of the Indian coolie class in Travencore, where oral cancer rates are among the world's highest, consisted of rice and tapioca, a diet very deficient in protein and Vitamin A. Wahi *et al*[23] reported subnormal levels of serum Vitamin A in 76.2% of their 1,916 cases of oral and oropharyngeal cancer in India. They considered hypovitaminosis A as an "adjuvant" in the carcinogenic process.

Experimental carcinogenesis reported by Rowe,[52] who used topical DMBA on the cheek pouch of Vitamin A deficient Syrian golden hamsters, resulted in a shortened latent period and increased tumor yield compared to controls.

Cold? Endocrine?

An unsolved and highly challenging puzzle is the unusual frequency of salivary gland cancers in Eskimos. In the first reports on neoplastic disease in the Eskimo, salivary gland cancers were noted.[8, 14, 15, 53] To what extent these were due to sampling errors inherent in small series awaited subsequent reports. Fourteen salivary gland cancers in Canadian Eskimos, which were collected over a nine year period, were recently reported by Wallace, MacDougall, Hildes and Lederman.[16] Calculation reveals this to be approximately 40 times the expected quantity. Hurst,[11] in the following year, reported a similar increased frequency among Alaskan Eskimos. Incidence of salivary gland cancer in Canadians, in general, lies intermediately between the extremely high incidence among the dwellers of the Far North and the population of the United States. In Canadians,[12] 2% to 3% of all malignant neoplasms are of salivary gland origin, a tenfold increase over that of the United States.[54] Causation assignment awaits detailed multidisciplinary study of these populations, as well as physiopathologic examination of other populations living north of the Arctic Circle, notably the Scandinavian countries and the USSR.

DISCUSSION

Oral cancer claims the lives of over 7,000 Americans each year.[55] Paradoxically, these lesions occur at sites readily accessible for observation and therapeutic interception. Over 100,000 dentists examine nearly one half of the population of the United States at regular intervals each year. The question, "Is It Cancer?," must be asked with greater frequency by this task force if today's salvage rates are to be increased.

An even greater challenge lies in the realm of oral cancer prevention. It may still be premature to ask of any one particular lesion, "Will it become cancer?" It should be apparent, however, that knowledge whereby this question may be answered is in the process of acquisition. That oral cancer is the result of a complex, multifactoral causal relationship seems certain. Based on present information, avoidance of tobacco is indicated. Excessive sunlight and alcohol ingestion also are to be avoided. Other probable cocarcinogens await further investigation to clarify

(Continued on page 668)

Special X-ray Exhibit

Pancreatic Heterotopia

M. WENDELL DIETZ, M.D.,* ***Springfield***

A CATALOGUE OF ORGANS to which ectopic pancreatic tissue may be grafted, linked with a potentiality for varied pathological change, escalates this uncommon congenital lesion to the forefront of enigmatic as well as intriguing syndromes.

Eight diverse cases are exhibited to exemplify basic tenets of this abnormality including sites of predilection, methods of detection, clinical significance, etc.

The first four cases of this collection illustrate asymptomatic lesions—medical curiosities whose demonstration is attributable largely to serendipity. Of the pathologic cases, ulcerating and stenosing arrests are of prime statistical importance. Inclusion of ectopic pancreas in an intestinal leiomyoma is noteworthy; malignant transformation of a pyloric rest is the fourth such case to be documented. Each of the pyloric lesions in this series was obstructive. Two duodenal lesions were symptomatic, pointing up an as yet inexplicable relationship to peptic ulcer and neoplasm.

SILENT GASTRODUODENAL "POLYPS": FORTUITOUSLY DETECTED BY ROENTGENOLOGIST

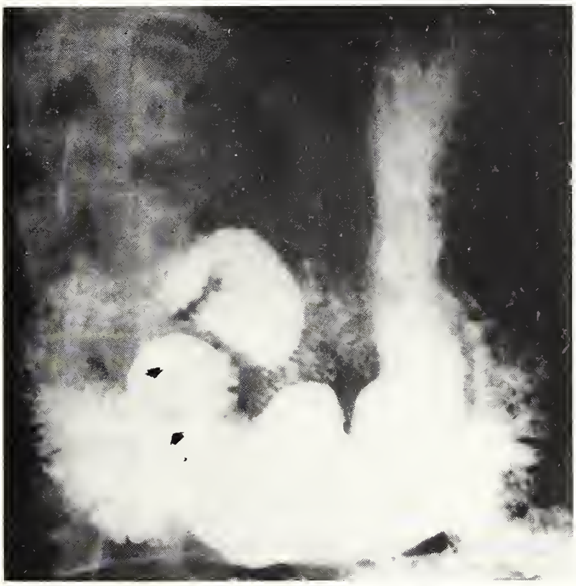

Fig. 1 Pancreatic arrest of gastric antrum.

Following the initial demonstration elsewhere of this antral nodule (Fig. 1), this 50-year-old woman had been instructed to undergo annual follow-up barium meal studies. Although the lesion was unchanged in size and the patient was

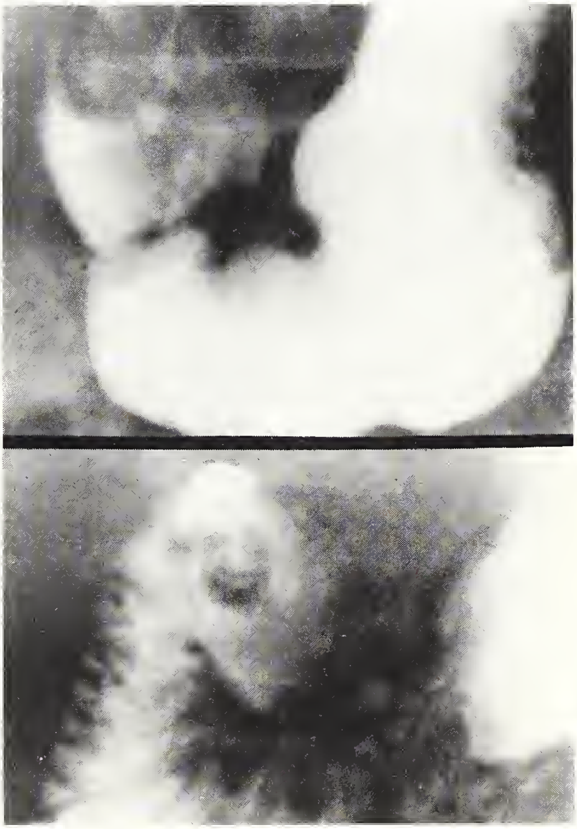

Fig. 2 Ectopic pancreatic nodule of duodenal bulb.

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asymptomatic, she requested resection of the mass for definitive histologic diagnosis.

This case typifies the most common accessory pancreatic syndrome—a single, asymptomatic, small, rounded, sessile submucosal nodule with intact overlying and adjacent mucosa.

A 55-year-old man was hospitalized for reevaluation of chronic pulmonary emphysema. He denied any digestive tract complaints. The duodenal defect was discovered during a routine gastrointestinal survey (Fig. 2).

This umbilicated spherical mass is an archetypal lesion: the duct-orifice near the summit of the tumor is simulated only by the "bull's eye" pattern of metastatic melanoma.

With the exception of the antrum, the duodenum is the most frequent site of pancreatic rests.

Pancreatic Ectopy Incidentally Identified by Pathologist

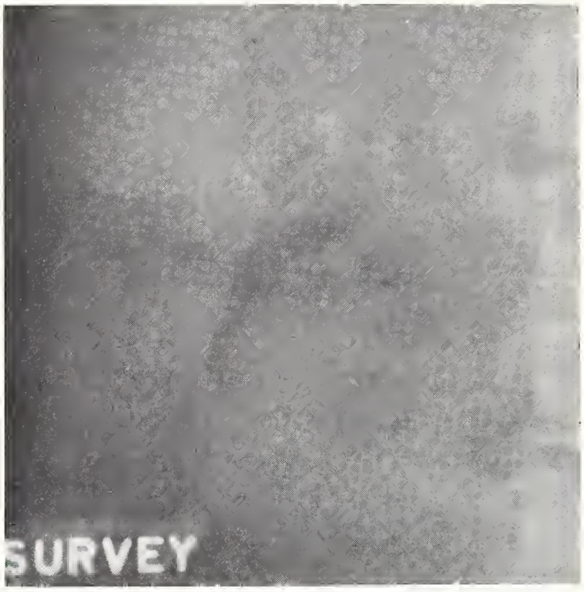

Fig. 3 Aberrant pancreas in cystic duct.

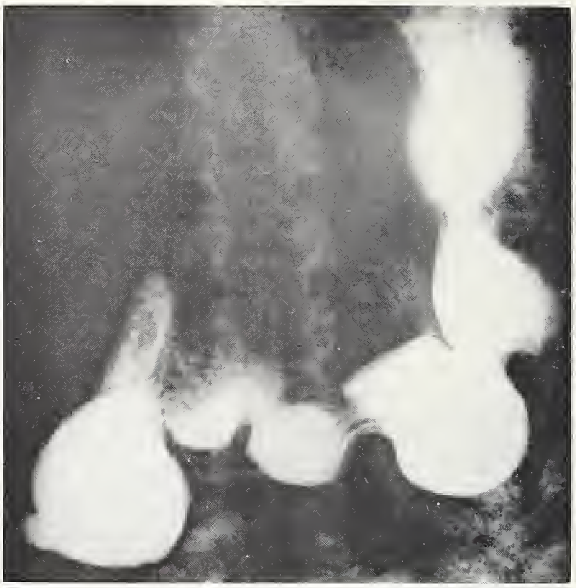

Fig. 4 Aberrant pancreas in duodenal diverticulum.

In Fig. 3, partially calcified gallstones are visible in a survey projection of the biliary area. Preoperative signs and symptoms were correlative with findings of chronic cholecystitis with cholelithiasis at cholecystectomy.

Aberrant pancreatic tissue was reported by the pathologist within the wall of the cystic duct.

Predictably, the site of the embryonic origin of the normal pancreas is the location for a vast majority of aberrant pancreatic nodules. In addition to these illustrated examples, arrests have occurred in the jejunoileum, Meckel's diverticulum, gallbladder, common duct, liver, spleen and omentum. In several instances, mediastinal cysts have harbored ectopic pancreatic tissue.

In Fig. 4, a barium meal has opacified an enormous diverticulum arising from the ampullary area of the descending duodenum. In view of chronic vague epigastic complaints and a five-day barium retention within the sac, diverticulectomy was performed. Intramural heterotopic pancreatic foci of doubtful significance were discovered at histologic examination.

Pyloroduodenal Heterotopic Pancreas May Ulcerate or Obstruct

Ulcerating Arrest. A 67-year-old woman was scheduled for a hemigastrectomy for a known duodenal bulbar ulcer of 12 years duration (Fig. 5, *arrow*). Recently an exacerbation of ulcer-type pain with nausea and vomiting proved unresponsive to medical therapy.

Histologically, aberrant pancreatic ducts and acinar tissue were recognized in the distal margin of the duodenal ulcer.

Constricting Arrest. A 72-year-old woman was hospitalized because a longstanding peptic ulcer syndrome was now complicated by severe vomit-

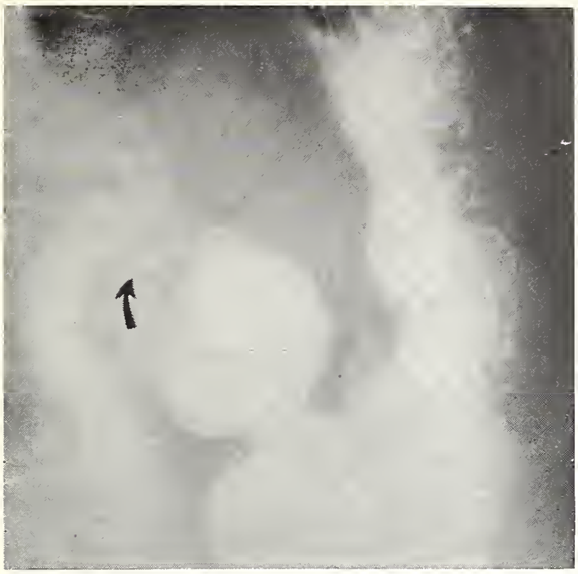

Fig. 5 Ulcerating pancreatic arrest in duodenal bulb.

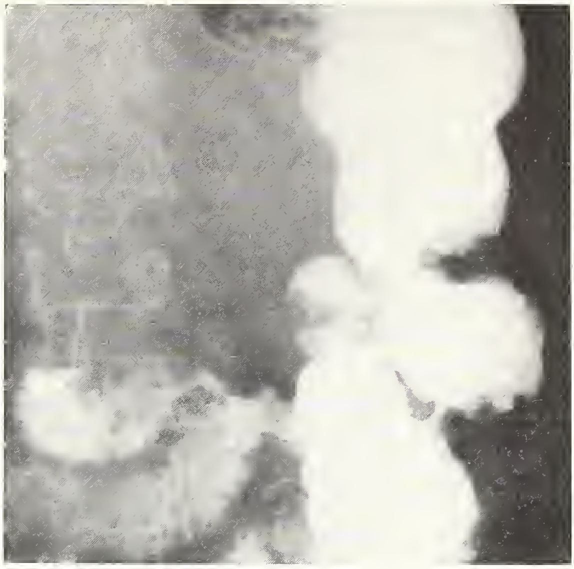

Fig. 6 Stenosing pyloric pancreatic arrest.

ing. Reexamination confirmed duodenal deformity and multiple ulcerations. Neither gastric dilatation nor retention existed (Fig. 6).

In addition to several small bulbar ulcers, exploration revealed pyloric constriction suggestive of adult hypertrophic pyloric stenosis. Pyloric muscle biopsies demonstrated ectopic pancreatic ductal and glandular tissue.

Heterotopic Pancreas and Neoplasm

Prior to a total hysterectomy for cervical carcinoma in situ, a gastrointestinal series was scheduled because of a history of recurrent postprandial epigastric discomfort. A large but nonobstructive intraluminal mass was outlined in the ampullary region of the descending duodenum (Fig. 7, *arrows*).

Resection revealed a pedunculated, predominately leiomyomatous polyp containing ectopic pancreatic as well as nerve tissue.

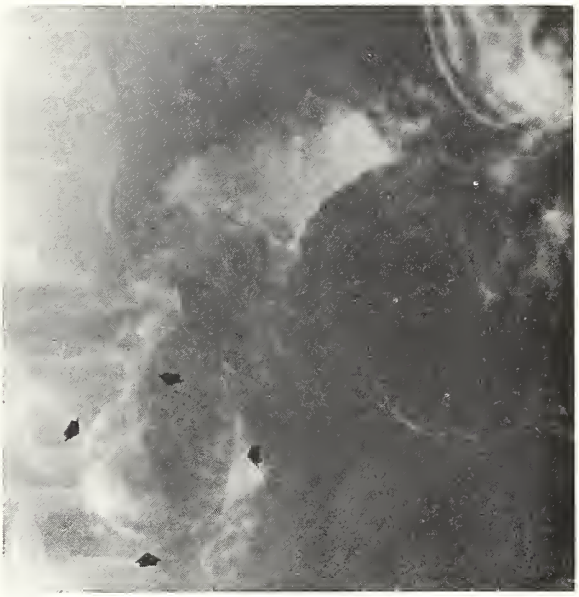

Fig. 7 Aberrant pancreatic tissue in descending duodenal leiomyoma.

A 75-year-old man was hospitalized because of a one month history of persistent vomiting and a 21 lb. weight loss.

Barium studies indicated a complete pyloric obstruction of indeterminate etiology (Fig. 8). A partial gastrectomy disclosed that an encircling ductal malignancy arose from a pyloric pancreatic rest and infiltrated to the peripyloric fatty tissue. The pancreas was negative.

Although the stomach is the most frequent locality of pancreatic heterotopia, only three cases of carcinoma arising in such tissue have been previously recorded. The third patient described also was operated on for pyloric obstruction by a nonislet cell pancreatic carcinoma.

Malignant accessory pancreatic tumors have been reported arising in the liver, duodenum, porta hepatis and the transverse mesocolon.

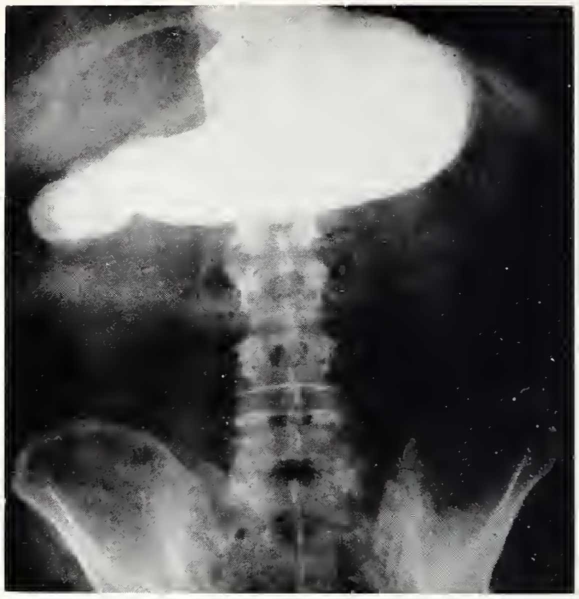

Fig. 8 Pancreatic ductal carcinoma in pyloric aberrant pancreas.

Epidemiological Concepts (Cont'd)

the remedial efforts required. Further investigation and implementation of cancer prevention discoveries will permit that a lesion "shall not become cancer." The only challenge greater than discovering a cure for cancer is to prevent that cancer from ever occurring.

(The next article in this series will discuss the treatment of patients with squamous cell carcinoma of the head and neck by combinations of radiation therapy and Methotrexate.—ED.)

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(Continued on page 679)

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Invasive Versus Preinvasive Cervical Carcinoma: 1961-1965

THE SUCCESS OF THE CERVICAL SMEAR TECHNIQUE in detection of preinvasive cervical cancer has been established. How successfully this technique has been applied in a specific setting should be reflected in the relative incidence of preinvasive and invasive cervical carcinomas as they occur in routine surgical pathological material. Ideally, all cases should be preinvasive tumors.

The purpose of this study was to ascertain the relative incidence of these two stages of development of this common cancer during the period of 1961 to 1965 in a relatively small, general hospital serving both generalists and specialists. The results should indicate the effectiveness of the educational efforts directed toward physicians and patients and provide a basis for estimating future progress.

MATERIAL

The patients were those in whom a tissue diagnosis of cervical carcinoma was made in the pathology department between 1961 and 1965. All patients were managed by members of the medical staff of Trinity Lutheran Hospital at a time when the hospital bed capacity was 200. The pathologic criteria for classification of the preinvasive stage of cervical carcinoma are sufficiently understood among pathologists and need not be restated here. Many of the cytological studies of the cervical smears were done elsewhere. In this five-year period, 110 patients had a diagnosis of uterine carcinoma. This was 10% of all malignant disease admissions. Of these 110 patients with uterine cancer, 27 (average age, 59 years) had endometrial carcinoma and were deleted, leaving 83 patients with cervical carcinoma.

RESULTS

Of the 83 patients with cervical carcinoma, 64 (77%) had preinvasive and 19 (23%) had invasive tumors. A single patient had invasive cervical adenocarcinoma. All except two of the 64 patients in the preinvasive carcinoma group had a cervical conization procedure. In 43 patients, a hysterectomy was done about six weeks after the conization and in 19, or nearly half of these, residual preinvasive carcinoma was found in the uterus.

The cervical smear classification in the preinvasive group was "positive" in 46, "suspicious" in 15 and "negative" in one case.

A report of the results of a study to determine the relative incidence of preinvasive and invasive cervical carcinoma during a five-year period in a relatively small general hospital serving both generalists and specialists. The authors believe that these results should indicate the effectiveness of the educational efforts directed toward the physician and the patient. Doctor Knudtzen was an intern at the Trinity Lutheran Hospital at the time this paper was prepared. He is now in Copenhagen, Denmark. Doctor Hill is Pathologist at the Hospital.

In the relatively brief follow-up period, no instance occurred in which patients treated for preinvasive carcinoma developed invasive carcinoma or had residual preinvasive carcinoma after hysterectomy. Five of the 19 patients with invasive carcinoma were known to be dead six months to three years after admission to the hospital.

The mean age of the preinvasive group was 38 years (range, 21 to 65). In the invasive group, it was 54 years (range, 34 to 80). While only a single woman in the invasive carcinoma group was less than 35 years of age, 25 women in the preinvasive carcinoma group were in this age range. Moreover, three were less than 25 years of age.

There were no unmarried women in these groups which included 64 married, eight divorced and eight widowed women with three whose marital status was obscure. Only eight women in the group had never been pregnant.

As noted in Table 1, over one half of the women in the preinvasive cancer group had no complaints and were identified by a positive cervical smear taken as part of a routine checkup. In the invasive cancer group, abnormal vaginal bleeding was the most frequent (73%) complaint that brought the patient to her physician. It was also the most frequent (27%) complaint of the women in the preinvasive cancer.

TABLE 1

REASONS PATIENTS IN THE PREINVASIVE AND INVASIVE CANCER GROUPS SOUGHT MEDICAL ATTENTION

	No. of Cases			
	Preinvasive	%	*Invasive*	%
Positive cervical smear on routine checkup	38	59	2	11
Abnormal vaginal bleeding	17	27	14	73
Vaginal discharge	3	5	—	—
Miscellaneous	6	9	3	16
Total	64	100	19	100

As shown in Table 2, one third of the preinvasive cancer group and one fifth of the invasive cancer group had normal appearing cervices.

TABLE 2

FINDINGS ON VAGINAL EXAMINATION IN THE PREINVASIVE AND INVASIVE CERVICAL CANCER GROUPS

	Preinvasive	%	*Invasive*	%
Erosion	25	39	3	15
Normal	22	34	4	21
Cervicitis	4	6	2	11
Ulceration	2	3	2	11
Leukoplakia	3	5	—	—
Stage II-IV invasive tumor	—	—	6	31
Miscellaneous	8	13	2	11
Total	64	100	19	100

Discussion

The ratio of preinvasive to invasive cervical carcinomas in a community general hospital should serve as an index of the effectiveness of the local educational activities. The incidence of invasive cervical carcinoma is expected to drop to a low level as yet undetermined. Owing to noncooperative patients, complete eradication of invasive cervical carcinoma is unlikely. Also, some cervical carcinomas may be invasive from the beginning and lack a preinvasive period. Our finding of 77% incidence of the preinvasive stage in patients having cervical cancer is similar to the findings of others who have reported 81%,[1] 79%[2] and 63%.[3]

An interesting result of this study was the high incidence (19 of 43 uteri) of residual carcinoma found in the uteri removed after conization. Certainly conization cannot be considered a curative procedure. Evaluation of the conization procedure is difficult since the relative amount of excised cervical tissue depends upon the aggressiveness of the surgeon and upon the anatomical relationships of each uterine cervix.

A statistic which would have had considerable interest but was not available in this study was the incidence of false positive and false negative cervical smear reports. We gain the impression that these were infrequent.

The age difference in the preinvasive and invasive carcinomas groups was impressive since the mean ages were 38 and 54 years, respectively. Even more impressive was the fact that 25 of 64 preinvasive carcinoma patients (40%) were less than 35 years of age and three were less than 25 years old.

Summary

In the five year period, 1961-1965, three fourths (64 of 83) of the cervical carcinomas diagnosed in a 200-bed community general hospital serving both generalists and specialists were in the preinvasive stage of the disease. The clinical and pathological features of these patients corresponded to those reported by others. Noteworthy were the number of young women in the preinvasive carcinoma group and the number of uteri in which residual preinvasive carcinoma was found to exist after conization.

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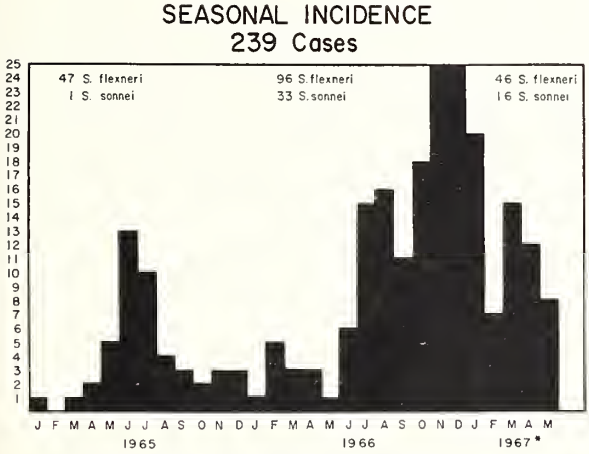
Shigellosis: An Analysis of 239 Cases In a Pediatric Population

An analysis that indicates that Shigellosis remains a significant health hazard in our pediatrics population. Though mortality did not occur, morbidity was significant. Familial and neighborhood spread accounted for 33% of the proven infections in the 239 diagnoses. Approximately 30% of the infected children required hospitalization. All had diarrhea, but dehydration, high fever and seizures were the most serious complications. The authors are from The Children's Mercy Hospital.

THE PEDIATRIC LITERATURE contains numerous reports of endemic and epidemic Shigellosis.[1-5] Our experience with this infection was rather limited until the late summer of 1965, when an increase in the isolation of Shigella became apparent in our bacteriology laboratory. Since that time, both Shigella flexneri and Shigella sonnei have been recognized as a common cause of acute gastroenteritis in The Children's Mercy Hospital population. Two hundred and thirty-nine cases diagnosed between Jan. 1, 1965 and May 31, 1967 form the basis of this report. The number of cases varied from month to month, but the trend was one of increasing magnitude (Fig. 1). A review of bacteriological records yielded 36 isolates in 1963 and only 17 in 1964. These cases were not reviewed, but they demonstrate the increase in isolation in the past 29 months. Shigella flexneri and Shigella sonnei were considered together because no difference could be seen in the clinical illness. It should be mentioned that only one case of Shigella sonnei was diagnosed in 1965. During 1966 and 1967, however, it became much more common.



*** An additional 92 cases occurred from June through December, 1967, for a total of 331 cases in three years.**

Fig. 1

CULTURE METHODS

Standard isolation technique was employed in evaluating all stool specimens. Rectal swabs were obtained from suspected cases and plated on EMB and SS agar for incubation at 37C for 24 to 48 hours. Non-lactose fermenting colonies were then transferred to Kligler's media for further differentiation. Sero-typing with group specific antisera was used for final identification of the organism. No subtyping was carried out. One hundred and eighty-nine strains of S. flexneri and 50 of S. sonnei were determined.

POPULATION

The children involved in our report were primarily from the lower socioeconomic group. The living conditions varied considerably within the area, but crowding was common and general sanitation was often marginal. Several housing projects were in the vicinity. Thirty-three percent of our cases were easily traced to another member of the immediate family or a close neighbor. These factors are known to contribute significantly to the epidemiology of Shigellosis.[6-9] The contact information was obtained without a formal epidemiological study, and the contact rate was probably much higher than our figures indicate. Numerous families were seen in which all the children had symptoms of the disease, but only one or two could be bacteriologically proven. Initially, many cases occurred in the immediate vicinity of The Children's Mercy Hospital. In 1965, the cases seemed to be restricted and were easily traced, but, during 1966 and 1967, new cases became widely separated without definite clustering.

The race, sex and age are presented in Table 1 and represent a cross section of patients usually seen at this hospital. The proportion of Negro and white children is roughly that seen in our Outpatient Department and living in the general area of the study. The increased proportion of males over females was not readily explainable. Most series have an equal proportion of males and females.[4, 5, 10] As in other reports, few children were less than six months of age and most were less than six years. There were two neonates, ages 11 and 12 days, who had the illness. Neither of these infants experienced the serious morbidity recently reported by Haltalin in his review of neonatal Shigellosis.[11] The age distribution, with most children being six years or younger, may reflect a greater concern on the part of the parent for a young child with diarrhea or the possibility that the symptoms are less bothersome to the older child and are not brought to the attention of the parent. Previous exposure or immunity may play a part in the lower proportion of clinical illness in the older child and adult. The isolation of Shigella in the area's adult population, usually seen at the city's municipal hospital, is much less than in the children in the same population.[12]

TABLE 1

SHIGELLOSIS

Cross Section of Patients at The Children's Mercy Hospital

Age	*Negro*	*White*	*Total Patients*	*Patients Admitted*	*S. Flexneri*	*S. Sonnei*
<6 months	18	5	23	7	18	5
6 mo.-2 yr.	76	38	114	45	95	19
3 yr.-6 yr.	40	40	80	20	57	23
7 yr.-14 yr.	10	12	22	6	19	3
Male	88	52				
Females	56	43				

The current literature emphasizes that Shigellosis is much less severe at present than in the past. In our hospital, only one death occurred secondary to a Shigella infection since 1963. Though mortality has been uncommon, the morbidity has remained significant. Approximately 30% of our patients required hospitalization.

TABLE 2

SHIGELLOSIS

Common Signs and Symptoms for Patients at The Children's Mercy Hospital

Signs and Symptoms	*Total Patients*	*Patients Admitted*
Diarrhea	239	78
with blood	91	43
Vomiting	77	40
Abdominal pain	27	9
Seizures	36	25
Temperature 101° F.	140	46
Dehydration	50	50

Table 2 presents the most common signs and symptoms for all patients and for those hospitalized. All children had diarrhea as either an original complaint or during the course of their illness. The number of stools ranged from four to 20 per day. Blood in the stool was variably recorded. Only those well documented cases were included in this category. Approximately 38% of all the children had this problem, which is not a particularly striking number when one considers "bloody diarrhea" as a classic sign of the illness. Fifty-five percent of hospitalized children had blood in their stool.

Vomiting, though less common than diarrhea, was a significant cause of morbidity and accompanied diarrhea in 32% of all cases and 51% of those hospitalized. Only 27 patients complained of abdominal pain. Most of these children were in the three-to-six-year-old group. This small number may reflect a lack of asking the question rather than an absence of the symptom. Feig reported an incidence of 62% for children up to five years of age and 60% in children six to 15 years old (43 and 20 cases, respectively).[1] Haltalin *et al* reported a 20% incidence in 52 patients.[13] Tenesmus was infrequently mentioned in our records and the information was not abstracted.

Fifty-eight percent of the children had temperatures greater than 101F. Previous reports have emphasized the association of temperature elevation, young age, seizures and Shigellosis.[14, 15] As seen in Table 3, our findings are similar. With one exception, all patients who experienced seizures were less than five years

TABLE 3

SHIGELLOSIS

As Observed in Patients at The Children's Mercy Hospital—Seizures Related to Age

Age	*No. With Seizures*	*No. Pat.*	*% With Seizures*
0- 6 mo.	4	26	15
6-12 mo.	1	33	3
1- 2 years	7	41	17
2- 5 years	23	109	21
6- 9 years	1	24	4
10-15 years	0	7	0

NOTE: Oldest patient with seizure was 6½ years.

TABLE 4

SHIGELLOSIS

As Observed in Patients at The Children's Mercy Hospital—Seizures Related to Temperature

Temperature	*No. With Seizures*	*No. Pat.*	*% With Seizures*
≤100.4°F.	2	85	2
100.4-102.1	6	45	13
102.2-103.9	13	46	28
104≥	15	43	35

NOTE: 21 cases had no record of temperature, none had seizures.

old. In Table 4, increase in temperature is related to seizures. As previously reported, the higher the temperature, the greater the occurrence of convulsions. Though so-called febrile seizures occur in many children less than five years of age, the incidence in Shigellosis remains much higher than normally expected.[16] Fifteen percent of all patients and 59% of those hospitalized experienced a seizure during their illnesses. The literature mentions incidences from 9% to 45% in patients with the infection.[4, 15]

Dehydration was a serious complication in 21% of all patients and 64% of those hospitalized. It was the most common reason for hospitalization. The patients were initially classified as less than 5% or 5% to 10% dehydrated. Because of differences in the evaluation, only those children who were clinically dry, who had an evaluation of plasma electrolytes and who received intravenous fluids were finally classified as dehydrated. These criteria eliminated many children who were mild to moderately dehydrated and were managed on an outpatient basis. Both the total and the hospitalized children comprise the same group. The relative higher morbidity in the hospitalized children may reflect a more severe illness, but better observation in the hospital also may be significant in the apparent differences.

The laboratory data are presented in Table 5. Complete blood counts were performed on 94 patients. The total leucocyte count did not correlate with the clinical severity of the illness and was seldom an aid in diagnosis. The range was variable, and both leucocytosis and leucopenia occurred. Donald and Winkler found similar results in their review of 67 patients with Shigellosis.[17] A shift in immature cells of the polymorphonuclear series was present in 44% of the cases. Poh has reported this finding in 85% of 123 pediatric cases seen in a General Hospital in California. He emphasized this finding as a clue in the diagnosis of Shigella gastroenteritis.[18] Rosenstein also mentioned this preponderence of young neutrophils in his patients with the infection.[4]

Cerebrospinal fluid and blood cultures were sterile in 35 and 28 patients, respectively. There are reports of CSF abnormalities in patients with Shigellosis. Several papers mention pleocytosis and altered spinal fluid chemistries.[19-21] The cell count, sugar and protein were normal in all of our patients who were examined.

Plasma electrolytes were determined on 69 children. Hyponatremia or hypernatremia of clinical significance was not encountered. Nine patients had plasma sodium concentrations be-

TABLE 5

SHIGELLOSIS

Laboratory Data—The Children's Mercy Hospital

Laboratory	*Total Patients*
WBC range (3,000-38,000)	
<5,000	7
5,000-9,990	35
10,000-14,999	29
15,000-19,999	15
>20,000	8
Shift in stabs	41/94
Plasma [NA] (120-148)	
<120	0
120-124	4
125-129	5
130-134	27
>135	33
Lumbar punctures—all normal	35
Blood cultures—all negative	28

low 130 mEq/L, but they were not symptomatically hyponatremic.[22] Only one patient exceeded a plasma sodium of 145 mEq/L. The CO_2 content was frequently low, but the electrolytes were otherwise unremarkable. There was no correlation between electrolyte abnormalities and seizures.

Positive cultures done by rectal swabs were essential for diagnosis in all cases. Twenty-three patients, approximately 10% of the group, required two or more cultures to establish a definite diagnosis. Doubtless, more positive cultures would have been obtained had more been done. In many cases, the illness subsided and the cultures did not seem clinically indicated. The severity of the illness and the time of culture, as well as the total number of cultures taken, are known to influence the diagnostic yield.[23]

Haltalin and Nelson recently published a study indicating the efficacy of ampicillin in eradicating Shigella from the gastrointestinal tract.[13] The effectiveness of antimicrobial therapy was not objectively evaluated in our patients. The most frequently employed drug was ampicillin, although Tetracycline, Sulfisoxazole and Neomycin were prescribed. In general, our children received an antibiotic after the diagnosis was established. Unfortunately, many patients never returned to the hospital for follow-up or cultures were not obtained on repeat clinic visits. A small number of children who had a positive stool culture never received antimicrobial therapy. These children may have been treated by other physicians elsewhere. It is interesting that only two children experienced what seems to be a repeat infection with Shigella. One had a different species, the other a recurrence of the same species.

It has long been recognized that the symptoms of Shigellosis are self-limiting. Garfinkel *et al* found that the organism was usually absent from the gastrointestinal tract after seven days in approximately 70% of proven cases left untreated with antibiotics.[24] For that reason, some physicians have felt that antimicrobials are unnecessary in relatively mild disease. Although this may hold true for the single individual with the illness, the problem of infecting others remains significant. It would seem to be especially true in our situation. In this population, Shigella organisms have continued to cause acute gastroenteritis. During the last seven months of 1967, 92 new cases were diagnosed. The attendant morbidity for this group was essentially unchanged from that of the previous 239 infections.

Our experience indicates that Shigellosis is a significant health problem in this community. The history, physical examination and laboratory are of limited value in the diagnosis of the disease. Rectal cultures are essential and often need to be repeated to establish a diagnosis. Follow-up cultures should be obtained and investigation by the local health authorities is mandatory if the spread of the disease is to be halted.

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President's Message

One of the requirements of this office, as you may note, is that of composing this page for each edition of MISSOURI MEDICINE. After attending the AMA Annual Convention and, then, serving eight days of Army Reserve duty at Camp McCoy, Wis., I have been back at work for one week that has been so filled with "taking up the slack" after being away and getting back into harness that I find myself devoid of any great pronouncements for the membership.

I would like to commend our AMA Delegates and Alternates, however, for their devotion to duty and plain hard work at the June AMA Convention. Missouri has only a four-man delegation, compared to 12 states who are represented by more, but it did not take long to learn that the untiring work of Senior Delegate Arthur Neilson, with Dr. Loren Washburn as his "right hand," has made our delegation well-known and respected. The two newer delegates—Dr. Stanley Peterson (second year) and Dr. Hector W. Benoit, Jr. (first year) are following the tradition of dedicated delegates and will maintain the high standards and reputation of MSMA in years to come. Alternate Delegates Tom Potter, Hugh Stephenson and Robert Kelley also are "old hands" and make it their business to know what is being discussed so that they can step in when necessary. Dr. James Sisk, an alternate, also is of this mold, but was unable to attend the San Francisco meeting. Dr. Wendell Scott is the AMA Delegate for the Section on Radiology. In a sense, he is a fifth delegate since he is seated with our delegation and attends all our caucuses and discussions.

David N. Kerr, M.D.

Briefly, the *modus operandi* is to attend all meetings of the House of Delegates. These can be quite long and tiring. Each delegate and alternate is assigned to attend certain reference committee meetings and to report to our delegation in caucus regarding the discussions before, and any actions taken, by his assigned committee prior to each session of the House of Delegates. Since there were more reference committees than there are Missouri delegates and alternates, I was assigned to observe one committee, as were President-Elect Doyle C. McCraw and Mr. Ray McIntyre and Mr. Don Brummall of the MSMA staff, Mr. Hollister Smith of the St. Louis Medical Society and Mr. Gary Schnedler of Greene County Medical Society. You can well be proud of them all. Also, on two evenings MSMA sponsored a Hospitality Room where we all served as hosts with our wives as valuable helpers.

As you probably know, the first session of the House of Delegates was invaded by representatives of the Committee for Human Rights and ancillary groups. It is to the credit of the AMA that this demonstration was anticipated and was generally orderly. The young men were allowed to speak their pieces. Although there was microphone trouble, booing from anyone attending the session was quickly silenced and only token noise was evidenced. To my knowledge, only one reference committee was invaded. Some delegate handbooks had fallen into their hands. The one invasion was by a boy in a wrinkled intern suit who delivered his harangue and left. All in all, it was a disappointment for the invaders, since they received very little publicity other than the rather forced reports released by the press.

Significantly, prior to the first session of the House of Delegates, the group was offered the opportunity to prepare resolutions to be submitted through a delegation or delegate in the approved manner. Typically, this was rejected in favor of attempting a disturbance. Talks of poverty, however, fall rather heavy on the ears of so many of us who tried and succeeded in getting through medical school in the depression years of the 1930's and, then, three to four years of war.

If the demonstrating groups had gone to the trouble of studying the handbooks they purloined, they would have seen that each of their demands for "immediate action" was incorporated somewhere in the many resolutions to be considered and acted upon for logical, thoughtful and responsible solutions for Medicine's role in the changes and challenges of the times.

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401-8

Woman's Auxiliary

We are bursting with pride . . . not because of what we have done, but because of the cooperation we have received from the members of the Woman's Auxiliary to the MSMA.

In May, Mrs. James A. Reid, President-Elect; Mrs. C. Stuart Exon, First Vice-President; and I set up and conducted five workshops throughout the entire state. As you know, the Auxiliary is divided into ten districts with a director for each district. The workshops were held in Excelsior Springs, Marshall, St. Louis, Cape Girardeau and Springfield. These convenient locations made it possible for members to attend without having to be away from home overnight.

Eighty-five members attended the meetings and all but five of the 27 auxiliaries were represented. The meetings were informal. We discussed the various phases of auxiliary work on both the county and state levels. Printed material on the subjects of parliamentary procedure, responsibilities of the county president, ethics of a doctor's wife, AMA-ERF, health careers, international health, mental health, safety-disaster preparedness and community health and legislation were made available to the county presidents, officers, directors and committee chairmen. In fact, the workshops were so well received that the members have asked Mrs. Reid to repeat them next year. They also were beneficial to me in many respects. Most of all, they provided an excellent opportunity to meet and know more Auxiliary members.

Mrs. E. F. Butler, President

Even though the county auxiliaries have discontinued meeting during the summer season, the Greene County Auxiliary is continuing to work on plans for the Fall Conference and the St. Louis County Auxiliary is making plans for the Annual Convention to be held in March, 1969. This is true auxiliary dedication.

I have just returned from the AMA annual convention in San Francisco and am proud to announce that three members of the Missouri Woman's Auxiliary were elected or appointed as officers of the AMA Woman's Auxiliary and are active on the national level. Mrs. Wallace R. Stacey of Independence was elected to serve a two-year term as a national director. Mrs. John M. Williams of Liberty was appointed North Central Region Safety-Disaster Preparedness Chairman. Mrs. Herbert L. Mantz of Kansas City was appointed to her fourth term as parliamentarian.

I am sure that the MSMA also is proud of these outstanding Auxiliary members and I want to thank Doctor Stacey, Doctor Williams and all other doctors who have encouraged their wives to continue their interest in Auxiliary activities and to work on the national level.

EDITORIALS

"WHAT PRICE—MEDICINE"

What this country needs is a good counseling service at the high school level to direct, advise and bring insight into young minds concerning the challenge of medicine as well as its shortcomings. Too many young men and women enter medicine with high hopes for the future, being coached by well-wishers, friends and parents, soon to find that they are to be disillusioned by entering a field in which the demands upon their personal life are much more than they bargained for.

The old theory that "many are called but few are chosen" applies very strongly to these young people. It takes more than mental brilliance to succeed and be happy with medicine.

We, as doctors, could aid these young people in forming a counseling service that could be applied at the high school level. Just think of the impact that this could have on these young people in helping find themselves early in life. They would know the good and the bad and, through their medical careers, learn to cope with the life a doctor must endure.

The dropout rate in our medical schools today is appalling. Is this the result of poor counseling by medical school admissions committees? I doubt it. I think this stems from a poorly-grounded foundation concerning the very basic idea that makes medicine tick.

The old adage, "Something worthwhile is worth doing well," certainly applies here. The young doctor must be motivated to succeed. Early planning and counseling would be one of the motivating powers to guide our future doctors to fulfillment and happiness with this great field—medicine.

RICHARD G. QUEVY, M.D., Ph.D.
St. Louis County Medical Society Bulletin

ARE WE WELL FED? WHO KNOWS?

When one studies the descriptive titles of the grants now being made for research in nutrition and reflects on the nutritional problems faced by large segments of American society, it seems that something's out of kilter. There is a dissonance between what we could be doing with this time, talent and money and what is being done. We don't appear to be applying our material and intellectual resources as well as we might to solve the solvable nutrition problems that face too many children and adults and elderly and poor in our country. It's time to reexamine some of the goals of nutrition research in America.

There is so much talk these days about overpopulation and starvation elsewhere in the world that it is easy to lose sight of the fact all is not well right here at home. When it comes to setting priorities for our talents, we as "haves" are all too often made to feel guilty about the lot of the "have nots" by declaring that, since we have such an abundance of food, there is little or no malnutrition in the United States. Every time a ship sails from an American port, laden with grain to fill the mouths of the hungry in some impoverished land, there is a little less inclination to accept the idea that there may very well be malnutrition within our own borders that we could do something about.

If we are honest with ourselves, we will admit there is at least the possibility that too many Americans are not well fed at all. Dr. William H. Stewart, the Surgeon General of the U. S. Public Health Service, in testifying before a Senate committee pointed out that while we had been able to conduct nutrition surveys all over the world, "We do not know the extent of malnutrition anywhere in the United States." Apparently, until recently, we have never been sufficiently motivated to carry out such studies in this country. Thankfully, the Secretary of Health, Education and Welfare is now organizing a nutritional survey in certain poverty areas of the United States that may throw some light on this dimly lit subject. This is a step in the right direction and it deserves the widest support.

Fredrick J. Stare of Harvard, who has done as much as anyone in America to awaken the public to the need for good nutrition, has written repeatedly and lectured from one end of the country to the other on the importance of the implantation of preference for good food in the earliest possible moment of childhood, but just how much preference has thus been implanted? Who knows?

Talk to any grade-school teacher or a perceptive school nurse. Ask them about the number of pretty little six-, seven- and eight-year-olds who trudge to school each morning without breakfast. You will certainly be alarmed at the answer you get. Here is a budding nutrition problem that borders on the scandalous. What is the meaning of this lack of what nearly everyone regards as the most essential meal of the day for these little children who are still growing and who are struggling to learn? What does this do to their ability to learn? What does it do to their present and future health? What can be done about it? Who knows?

One of the best organized studies on the nutritional status of our teenagers has now expired at midpoint, starved from the lack of the two vital foods: motivation and money. Yet, what is the nutritional status of our young people? We know that they are undergoing the most stressful period of their lives. We know their food demands are tremendous, and we know they develop all sorts of faulty eating habits. How well nourished are these young children in America? They look healthy. So do the Watusi. But, are our youngsters indeed well nourished? Who knows?

Middle-age obesity is said to be the major illness in our land today. That the clinicians who see obese patients need the help of the nutritionist is evident from the fact that the practicing physicians' record in trying to get a firm grasp on this nettle is less than enviable. Because clinicians don't seem to be able to cope with obesity and it has not been given the attention in research that a national disease deserves, the quacks and the charlatans have moved in. What can be done about obesity? Who knows?

A little over a year ago, the American people made a commitment to pay for the medical care of our elderly citizens. This is a very large and costly undertaking. Anything that can be done to improve the health of the older people is not only a moral obligation but economically wise. It is, therefore, surprising to find that the list of grants for research this year reveals little curiosity about the nutritional problems of the elderly. Is there anything we know about nutrition that would return some of them to productivity and brighten their remaining years? Who knows?

It is generally accepted that poverty and undernourishment are bedfellows. The economists know where to find the poverty, but can we spot the undernourishment? Considering this parallel, malnutrition is undoubtedly prevalent in Appalachia, in our slums and in certain rural areas. It's not hard to imagine that there are enough interesting problems in these places to whet the intellectual appetites of a small army of nutritionists. But is anybody shipping "Incaparina" to Harlem? What is the effect of this undernourishment on these people, on our economy, on our society? Is it this that freezes them into the hard core of unemployables that so vexes our social planners? To what extent is nutritional status to blame for the predicament of the poor, seemingly uneducable Negro whose plight in this land of plenty is offensive to Christian decency? Who knows?

These are some of the problems that exist here in our own backyard. They cry out for recognition and solution.

The time has come when we as physicians, dietitians and nutritionists—scientists all—must ask ourselves whether the people of America are really well fed. We are the only ones who can know. It's time we looked homeward. It's time we found out.

CORTEZ F. ENLOE, JR., M.D., Editor
Nutrition Today

Epidemiological Concepts (Cont'd)

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COMMENT . . .

Our Readers Write

MISSOURI SOCIETY
PROFESSIONAL ENGINEERS

George A. Ulett, M.D. *(second from left)*, Director of the Division of Mental Diseases, Missouri Department of Public Health and Welfare, captured the interest of members of the Missouri Society of Professional Engineers at their 32nd Annual Meeting in Rolla. His subject was "The Medical-Engineering Team Advances in Missouri." Others at the speaker's table are *(left to right)* David H. Lillard, P.E., President-Elect of MSPE; Charles C. Miller, Research and Information Specialist in Engineering, Missouri Division of Comprehensive Planning, Jefferson City; and S. G. Grigoropoulos, P.E., Director of the Environmental Health Research Center, University of Missouri-Rolla.

Mr. Ray McIntyre
Executive Secretary
Missouri State Medical Association
Jefferson City, Mo.

Dear Mr. McIntyre:

We thought you may like to use this photo of George A. Ulett, M.D., speaking at our 32nd Annual MSPE Meeting.

His presentation was most informative and inspiring. He convinced everyone that there is a growing need for engineers and physicians to work as a team. He described and showed with slides several sophisticated applications of engineering developments in clinics and hospitals directly involved in medical treatment and measurement. He made an earnest plea for more engineers in this field.

Several engineering students heard Doctor Ulett's talk and, afterward, expressed interest in this specialty.

Sincerely,
PAUL N. DOLL, P.E.
Executive Director
Missouri Society of
Professional Engineers

In Memoriam

Focht, Ralph H., M.D., Strafford, a graduate of Washington University, 1913; member of Greene County Medical Society; aged 79; died May 10, 1968.

Remley, George C., M.D., Kansas City, a graduate of St. Louis University, 1910; member of Jackson County Medical Society; aged 83; died May 11, 1968.

Wild, Aloysius A., M.D., St. Louis, a graduate of St. Louis University, 1927; member of St. Louis Medical Society; aged 68; died May 23, 1968.

Jackson, William R., M.D., Kansas City, a graduate of Rush Medical College, 1916; member of Jackson County Medical Society; aged 75; died May 25, 1968.

LaHue, L. D., M.D., Butler, a graduate of Kansas City College of Medicine and Surgery, 1921; member of West Central Missouri Medical Society; aged 81; died May 25, 1968.

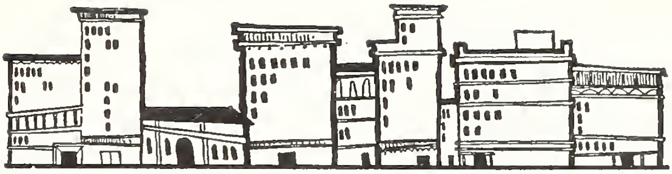
Thompson, Fred G., Jr., M.D., St. Joseph, a graduate of Harvard University, 1923; member of Buchanan County Medical Society; aged 70; died May 25, 1968.

Ongjoco, Melchor I., M.D., St. Louis, a graduate of the University of Santo Tomas, 1946; a member of St. Louis Medical Society; aged 47; died June 3, 1968.

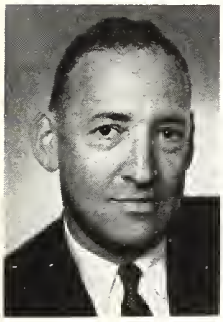
Tureen, Louis L., M.D., St. Louis, a graduate of Washington University, 1927; member of St. Louis Medical Society; aged 63; died June 18, 1968.

Owens, Hugh H., M.D., Kansas City, a graduate of the University of Kansas, 1918; member of Jackson County Medical Society; aged 79; died June 24, 1968.

From the Medical Schools



ST. LOUIS UNIVERSITY



Dr. Oppenheimer

Dr. Henry E. Oppenheimer has been elected president of the medical alumni association of the St. Louis University School of Medicine. He is an associate clinical professor of internal medicine at the School and former president of the medical staff of the St. Louis University Hospitals.

Dr. G. O. Broun, Sr., professor of internal medicine and dean emeritus, School of Medicine, was honored by the alumni association in recognition of his 50th year as a physician at the annual alumni reunion held in San Francisco in conjunction with the AMA convention. Doctor Oppenheimer presented Doctor Broun with an engraved silver bowl.

Luther J. Willmore, Jr. of St. Louis is the graduating senior who won the Honors Graduate Award of the Missouri State Medical Association at a Senior Class Day Ceremony held at the St. Louis Medical Society Auditorium. He held a Thurston Scholarship as a sophomore, a Medical Student General Scholarship as a junior and a Pfizer Scholarship as a senior.

Dr. C. Rollins Hanlon, professor and chairman of the department of surgery, was elected president of the Society of Vascular Surgeons at the recent meeting of the group held in San Francisco.

Dr. Ronan O'Rahilly, professor and chairman of the department of anatomy, participated in the First Conference on the Clinical Delineation of Birth Defects at the Johns Hopkins Hospital May 20-25.

Dr. Morton Weber, professor and chairman of the department of microbiology, was invited as a discussant at the Gordon Research Conferences scheduled to be held at Proctor Academy in Andover, N. H. on July 28-August 3.

Dr. John C. McGiff, associate professor of internal medicine and director of the section of cardiology in the department of internal medicine, has been named a member of the Medical Advisory Board of the Council of High Blood Pressure Research.

Dr. Louis L. Tureen, professor of neurology and chairman of the section of neurology, died on June 6, 1968 following a long illness. A distinguished researcher and teacher, Doctor Tureen had actively engaged in histochemical and electronmicroscopic studies of multiple sclerosis and muscular dystrophy for many years.

Dr. G. O. Broun, Jr., assistant professor of internal medicine, has been elected a fellow of the American College of Physicians.

Dr. William E. Holt, associate clinical professor of psychiatry, discussed problems of psychiatric practice and teaching with the members of the faculty of the University of Athens. While there, he delivered a paper on "Aspects of the Evaluation of Patients for Therapy."

Dr. Marshall Katzman, instructor in psychiatry, presented a paper entitled "Determinants in the Judgment of Obscenity" at the annual Amer-

THINK
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Bill O'Malley

ican Psychiatric Association. It was co-authored by the late Dr. John W. Higgins.

Drs. Kermit Christensen, George H. Hwang, John J. Taylor, Branislav Vidic and Vernon L. Yeager of the department of anatomy presented papers at the annual meeting of the American Association of Anatomists in New Orleans.

Dr. Donald J. Mehan, instructor in urology, presented a paper entitled "The Recognition and Management of Unusual Cases of Intersexuality" before the Section of Urology at the June AMA meeting.

Fifty-six of the 109 June graduates of the St. Louis University School of Medicine will begin internships at hospitals in the St. Louis area in July. Ten of those remaining here are from the St. Louis area.

WASHINGTON UNIVERSITY

David Lee Stabenow of Shawnee Mission, Kan., a senior medical student, received the Alpha Omega Alpha Book Prize for achieving the highest average for the four-year medical course and the Missouri State Medical Association Award of a scroll and a $100 U. S. Savings Bond for high scholastic average at the Senior Awards Night on June 1 at the St. Louis Medical Society Building auditorium.

Dr. Gerald T. Perkoff, professor of internal medicine, has been appointed director of the newly-created Division of Health Care Research which is to be established as a separate division of the Medical School. In the post, Doctor Perkoff will hold a joint appointment as professor of medicine and of preventive medicine and public health. He also will serve as consultant for medical care planning for the Washington University Medical School and Associated Hospitals (WUMSAH), which operate outpatient clinics in the Jewish Hospital of St. Louis, St. Louis Children's Hospital and the Washington University Clinics administered by Barnes Hospital.

The Evarts A. Graham Visiting Professorship in Surgery was established on June 10, 1968, by the Harry Freund Memorial Foundation at the School of Medicine. Dr. Owen H. Wangensteen, emeritus professor of surgery at the University of Minnesota School of Medicine and a world leader in the field of gastrointestinal surgery, delivered the initial lectures. Announcement of the founding was made at a luncheon in Queeny Tower honoring Dr. J. G. Probstein, emeritus associate clinical professor of surgery, who re-

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cently completed 15 years as medical consultant to the Freund Foundation.

The School of Medicine and Barnes Hospital have announced the appointment of Dr. John E. Hoppes as associate professor of plastic and reconstructive surgery on the Medical School faculty and plastic surgeon-in-chief at Barnes. He formerly was an assistant professor of plastic surgery at the Johns Hopkins University School of Medicine, plastic surgeon at the Johns Hopkins Hospital, consultant plastic surgeon at the U. S. Public Health Service Hospital and attending plastic surgeon at Children's Hospital and the City Hospitals in Baltimore, Md.

More than 350 physicians and their families from 31 states attended the School of Medicine's annual alumni activities and scientific program in St. Louis on May 30-31.

Dr. Marshall B. Conrad (Class of 1945), assistant professor of clinical orthopedic surgery, was named president-elect of the Alumni Association. Dr. Melvin L. Goldman (Class of 1943, March), assistant professor of clinical medicine, will serve as president of the 4,000 member organization for the coming year.

Thirteen members of the School of Medicine Class of 1918 were honored by the Alumni Association during the annual banquet in St. Louis. Fifty-year memberships were awarded to the following Missourians: Drs. Glover H. Copher and Horace H. Shackelford, St. Louis; G. F. Cresswell, Potosi; Hugh W. Maxey, Jefferson City; and George M. Polk, Kansas City. Also honored were Drs. C. A. Andersen, Sun City, Calif.; B. C. Ball, Fort Worth, Texas; Jacob W. Bergstrom, Arcadia, Calif.; P. C. Hodges, Gainesville, Fla.; Hugo Muench, Jr., Cambridge, Mass.; Johannes F. Pessel, Yardley, Pa.; Olof Sundwall, Murray, Utah; and James A. Tesson, Leawood, Kan.

In addition to the 50-year certificates, honorary memberships were awarded to Frank R. Bradley, professor emeritus of hospital administration; James B. Brown, clinical professor emeritus of surgery; Walter P. Covell, professor emeritus of anatomy and otolaryngology; and William B. Parker, registrar and secretary to the executive faculty emeritus and consultant to the dean of the medical school.

(Continued on page 684)

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Medical Schools (Cont'd)

MISSOURI UNIVERSITY

Dr. Wilson

Dr. Vernon E. Wilson's appointment to the newly-created position of Vice-President for Academic Affairs for the University of Missouri has been approved by the Board of Curators. In the new position, he will be responsible for coordination and long-range planning of undergraduate professional and graduate programs.

Doctor Wilson, former dean of the University of Missouri-Columbia School of Medicine and Director of the Medical Center and now Executive Director of Health Affairs and Consultant to the President on Medical Affairs, will work closely during the coming year with Dr. Raymond E. Peck, Vice-President for Research and Graduate Studies, to phase Doctor Peck's current duties and programs over to the Vice-President for Academic Affairs. Doctor Peck will retire August, 31, 1969, and use of the title, Vice-President for Research and Graduate Studies, will be discontinued at that time.

Doctor Wilson's new assignment will allow Dr. A. G. Unklesbay, Vice-President for Administration, to give his undivided attention to the increasing demands of that office. Doctor Unklesbay earlier accepted responsibility for the University-wide coordination of undergraduate programs as an interim assignment with the understanding that he would be relieved of this responsibility when the new post was created.

The positions of Executive Director for Health Affairs of the Columbia campus and Consultant to the President for Medical Affairs will be discontinued.

Dr. Donald A. B. Lindberg of the faculty of the School of Medicine is the author of a new book entitled, "The Computer and Medical Care." The book is addressed primarily to people who are familiar with hospitals. Most of the programming and systems examples are taken from the University of Missouri Medical Center computer program which Doctor Lindberg heads. He is also associate professor of pathology.

Dr. Solomon Garb, professor of pharmacology and associate professor of community health, is the author of a new book, "Cure for Cancer—A

(Continued on page 688)

New Members

Harold D. Adams, M.D., 213 W. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Adams is a native of Nixa, received his preliminary education at American River Junior College and his M.D. degree at the University of Missouri in 1965. He specializes in pediatrics.

Donald K. Back, M.D., 1211 S. Glenstone, Springfield, has become a member of Greene County Medical Society. Dr. Back is a native of Tulsa, Okla., received his preliminary education at Westminster College and his M.D. degree at St. Louis University in 1961. He specializes in internal medicine.

Hendrick Barner, M.D., 1325 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Barner is a native of Seattle, Wash., received his preliminary education at the University of Washington and his M.D. degree at the University of Washington in 1957. He specializes in surgery.

Arch Joe Beatty, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Beatty is a native of Warrensburg, received his preliminary education at Central Missouri State College and his M.D. degree at the University of Tennessee in 1940. He specializes in general and thoracic surgery.

Dunet F. Belancourt, M.D., 4503 Pope Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Belancourt is a native of Aquin, Haiti, received his preliminary education at Lycee Petioh, Haiti, and his M.D. degree from Faculte de Medecine Port-au-Prince, Haiti in 1955. He specializes in internal medicine.

Calvin B. Benton, M.D., 1125 Belrue Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Benton is a native of Morehead City, N. C., received his preliminary education at the Agriculture and Technical College of North Carolina and his M.D. degree at Meharry Medical College in 1963. He specializes in general surgery.

Robert L. Chesanow, M.D., 1515 Lafayette, St. Louis, has become a member of St. Louis Medical Society. Dr. Chesanow is a native of Kearny, N. J., received his preliminary education at Union College and his M.D. degree at Albany Medical College in 1960. He specializes in neurology.

Yen Ping Chou, M.D., Robert Koch Hospital, Koch, has become a member of St. Louis Medical Society. Dr. Chou is a native of Kunming, China, received his preliminary education at the University of Wisconsin and his M.D. degree at Washington University in 1951. He specializes in internal medicine and chest diseases.

Thomas A. Coppinger, M.D., 306 E. 21st Ave., Kansas City, has become a member of Clay County Medical Society. Dr. Coppinger is a native of St. Louis, received his preliminary education at Rockhurst College and his M.D. degree at the University of Kansas in 1962. He specializes in internal medicine.

Leon Galinsky, M.D., Missouri State Sanatorium, Mount Vernon, has become a member of Ozarks Medical Society. Dr. Galinsky is a native of Sioux City, Iowa, received his preliminary education at Harvard College and his M.D. degree at the University of Chicago in 1933. He specializes in internal medicine.

Frederick G. Germuth, Jr., M.D., 1402 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Germuth is a native of Baltimore, Md., received his preliminary education at Johns Hopkins University and his M.D. degree at Johns Hopkins School of Medicine in 1945. He specializes in certified anatomic and clinical pathology.

Lawrence W. Hamtil, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Hamtil is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at the University of Missouri in 1961. He specializes in ophthalmology.

William M. Hart, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Hart is a native of St. Clair County, received his preliminary education at Southeast Missouri State College and his M.D. degree at the University of Missouri in 1948. He specializes in ophthalmology.

Frank H. Ise, Jr., M.D., 6400 Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. Ise is a native of Wichita, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at

Washington University in 1963. He specializes in orthopedic surgery.

Edward E. Mardini, M.D., 140 Church St., Bonne Terre, has become a member of Mineral Area County Medical Society. Dr. Mardini is a native of Brooklyn, N. Y., received his preliminary education at the University of New York and his M.D. degree at Georgetown University in 1957. He specializes in surgery.

John E. Miksicek, M.D., 6219 Itaska Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Miksicek is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1937. He specializes in neurology and psychiatry.

Jay L. Milne, M.D., 609 Cherry St., Springfield, has become a member of Greene County Medical Society. Dr. Milne is a native of Oregon, received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1960. He specializes in urology.

Turner L. Minnigerade, M.D., 11 South Williams, Columbia, has become a member of Boone County Medical Society. Dr. Minnigerade is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1964. He specializes in internal medicine.

Lynn D. Mitchell, M.D., 1502 E. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Mitchell is a native of Flat River, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1964. He specializes in internal medicine.

Larry Dee Mosby, M.D., 1704 Jackson, Columbia, has become a member of Boone County Medical Society. Dr. Mosby is a native of Sedalia, received his preliminary education at the University of Kansas and his M.D. degree at the University of Missouri in 1962. He specializes in pathology.

J. Gerard Mudd, M.D., 1325 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Mudd is a native of St. Louis, received his preliminary education at Holy Cross College and his M.D. degree at St. Louis University in 1950. He specializes in obstetrics and gynecology.

Laurence W. Muench, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Muench is a native of St. Louis, received his preliminary education at Trinity College and his M.D. degree at Washington University in 1962. He specializes in anesthesiology.

Charles Norland, M.D., 114 N. Taylor, St. Louis, has become a member of St. Louis Medical Society. Dr. Norland is a native of Seattle, Wash., received his preliminary education at Washington State College and his M.D. degree at Washington University in 1959. He specializes in internal medicine.

John A. Pierce, M.D., 4550 Scott Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Pierce is a native of Little Rock, Ark., received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1948. He specializes in internal medicine.

John R. Radke, M.D., 3915 Watson Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Radke is a native of Joliet, Ill., received his preliminary education at the University of Illinois and his M.D. degree at St. Louis University in 1962. He specializes in cardiology.

Arthur E. Rikli, M.D., 406 Turner, Columbia, has become a member of Boone County Medical Society. Dr. Rikli is a native of Naperville, Ill., received his preliminary education at North Central College and his M.D. degree at the University of Illinois in 1944. He specializes in public health and preventive medicine.

G. Garry Robben, M.D., U. S. Navy Hospital, Jacksonville, Fla., has become a member of St. Louis Medical Society. Dr. Robben is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1962. He specializes in internal medicine.

Charles C. Scott, M.D., 2317 McCoy, Kansas City, has become a member of Jackson County Medical Society. Dr. Scott is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree from the University of Kansas in 1960. He is in public health.

Stephen P. Sniderman, M.D., 90 Totten St., Ft. Leonard Wood, has become a member of Mid-Missouri County Medical Society. Dr. Sniderman is a native of Flint, Mich., received his preliminary education at the University of Michigan and his M.D. degree at Wayne State in 1959. He specializes in urology.

Lee A. Sosebee, M.D., 1504 E. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Sosebee is a native of Stamford, Tex., received his preliminary education at Abilene Christian College and his M.D. degree at Southwestern University in 1955. He specializes in orthopedic surgery.

Gary A. Storey, M.D., 1325 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Storey is a native of Bakersfield, Calif., received his preliminary education at Fresno State College and his M.D. degree at Washington University in 1961. He specializes in urology.

Bennie N. Till, M.D., 220 North Walnut, Dexter, has become a member of SEMO County Medical Society. Dr. Till is a native of Marston, received his preliminary education at Central College and his M.D. degree from the University of Missouri in 1964. He is in general practice.

Larry D. Toalson, M.D., 1804 Kathy Dr., Columbia, has become a member of Boone County Medical Society. Dr. Toalson is a native of St. Joseph, received his preliminary education

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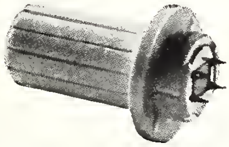

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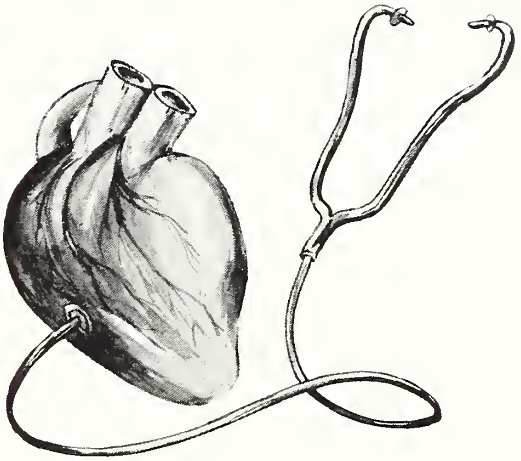

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at the University of Missouri and his M.D. degree from the University of Missouri in 1963. He specializes in pathology.

Robert H. Vanderpearl, M.D., 1420 Grattan, St. Louis, has become a member of St. Louis Medical Society. Dr. Vanderpearl is a native of Rockford, Ill., received his preliminary education at Washington University and his M.D. degree at Washington University in 1954. He specializes in psychiatry.

Robin S. Weir, M.D., Bethany, has become a member of Grand River Medical Society. Dr. Weir is a native of Bryn Mawr, Penn., received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Miami in 1959. He is in general practice.

Lynn D. Weller, Jr., M.D., 11201 Colorado, Kansas City, has become a member of Jackson County Medical Society. Dr. Weller is a native of Pocatello, Idaho, received his preliminary education at Brigham Young University and his M.D. degree at the University of Utah in 1963. He specializes in obstetrics and gynecology.

Edwin O. Wicks, M.D., 415 E. 11th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Wicks is a native of Valley City, N. D., received his preliminary education at the University of Michigan and his M.D. degree at the University of Minnesota in 1950. He is in public health.

Robert D. Wilber, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Wilber is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in internal medicine and gastroenterology.

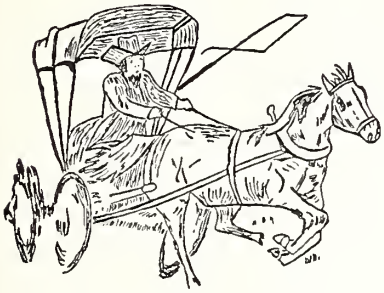
Medical Schools (Cont'd)

National Goal." Excerpts from his book appear in a five-page article in the June 1 issue of *Saturday Review* and are entitled "Neglected Approaches to Cancer."

In his book, Doctor Garb does not claim to have a cure for cancer, but states that his chief purpose is to call attention to promising leads that "are now lying fallow—and to the corollary truth that valuable research is often unnecessarily and undesirably broken off by enforced retirement or death to talented individuals. . . ." He advocates coordination of cancer research on a national level.

LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

The 79th Annual Meeting of the American Medical Association, which was held in Minneapolis on June 11-15, was a most enjoyable meeting from every standpoint. The address of the retiring President, Dr. Jabez N. Jackson of Kansas City, was received with hearty approval. The House of Delegates elected Dr. Samuel C. James of Kansas City as an Affiliate Fellow on nomination by the Missouri Delegates. In electing Dr. Malcolm L. Harris of Chicago as President-Elect, the House of Delegates honored a man who has been untiring in his efforts to maintain the high efficiency of the organization ever since the Association was reorganized in 1901.

Dr. Frank L. Ridge, President of the MSMA, was elected president and Dr. A. W. McAlester, Kansas City, was elected vice-president of the Missouri University Medical School Alumni.

Although the latest check shows that there is one physician for every 608 in population, many Missouri communities are without medical service. As a corollary, many physicians are without a practice.

Yale University conferred the honorary degree of Master of Science upon Dr. Evarts A. Graham, St. Louis, professor of surgery at the Washington University School of Medicine and co-editor of *Archives of Surgery*.

The New West Hospital at Monett, which is owned and operated by Dr. W. M. West, was opened to the public on May 1, 1928.

TWENTY-FIVE YEARS AGO

The regular annual session of the AMA for 1943 was not held, but the House of Delegates met at the Palmer House in Chicago on June 7-9. Dr. Elliott Proctor Joslin, Boston, Mass., was selected as the recipient of the Distinguished Service Award and this medal was presented to him at the General Meeting on the evening of June 8.

Dr. Edgar W. Johnson, Kansas City, was elected president of the Kansas City Eye, Ear, Nose and Throat Society on May 20. Other officers elected were Drs. Luther J. Ferguson, St. Joseph, and John A. Billingsley, Kansas City, Kan., vice-presidents; E. Byron Black, Kansas City, treasurer; and W. E. Keith, Kansas City, secretary.

Serologic studies, both in vitro and vivo, determined that gum tragacanth completely neutralized the reagins of gum arabic, but gum arabic failed to neutralize the reagins of gum tragacanth. The various gums are substitute for one another. Their occurrence in commercial products runs the gamut from adhesive pastes and artificial flowers through laxatives, furniture polish, salad dressings, tooth pastes and varnish, to mention only a few sources of contact. Gum arabic and gum tragacanth, although differing in genus and species, are members of the same botanical family—*Leguminosae*.

TEN YEARS AGO

All of the delegates from Missouri attended the AMA Annual Session and House of Delegates in San Francisco on June 23-27, 1958, except Dr. F. L. Feierabend, Kansas City, who was unable to be present because of personal reasons.

Dr. Louis M. Orr, Orlando, Fla., was unanimously chosen as President-Elect of AMA. Total physician registration passed the 13,000 mark, with 13,034 registrations by Thursday noon. This exceeded the entire physician registration four years ago in San Francisco by 1,000. The total of physicians and guests at the Session was almost 38,000.

The AMA House applauded and adopted a Missouri resolution aimed at cutting down the number of patients in Veterans Administration Hospitals with nonservice-connected disabilities.

The Central Missouri Chapter of the American College of Surgeons elected Dr. Henry Durst, Fulton, as their new president. Doctor Durst succeeds Dr. Avery Rowlette of Moberly.

NOTICE TO PHYSICIANS

Method of Recording Date on International Certificates of Vaccination

The following information has recently been released by the Foreign Quarantine Program of the Public Health Service. It is applicable to any physician who immunizes a person for international travel.

"The World Health Organization has recently called attention to the requirement in the International Sanitary Regulations that all dates should be recorded in the following sequence.

Day	*Month*	*Year*
e.g. 2	May	1968

WHO points out that difficulties continue to arise because of the use of arabic figures for recording the month. In the United States and some other countries, it is the custom to write the month (either in letters or arabic numerals) before the day. However, it is a common practice in many other countries to follow the format indicated above. Thus, an American physician who vaccinated one of his patients on November 2, 1965, may have written the date as '11/2/65.' A European Quarantine Inspector would assume that such a Certificate had been issued on February 11, 1965. He would, therefore, consider the Certificate invalid because of issuance more than three years prior to the present time. No misinterpretation is possible, however, if the date were indicated as prescribed by WHO, that is, '2 Nov. 65.' "

Before recording a vaccination or immunization on any International Vaccination Certificate, physicians are urged to read the instructions on page 10 of the document.

(For additional information, contact E. A. Belden, M.D., Director, Bureau of Communicable Diseases, The Division of Health of Missouri, Jefferson City, Missouri 65101.—The Ed.)

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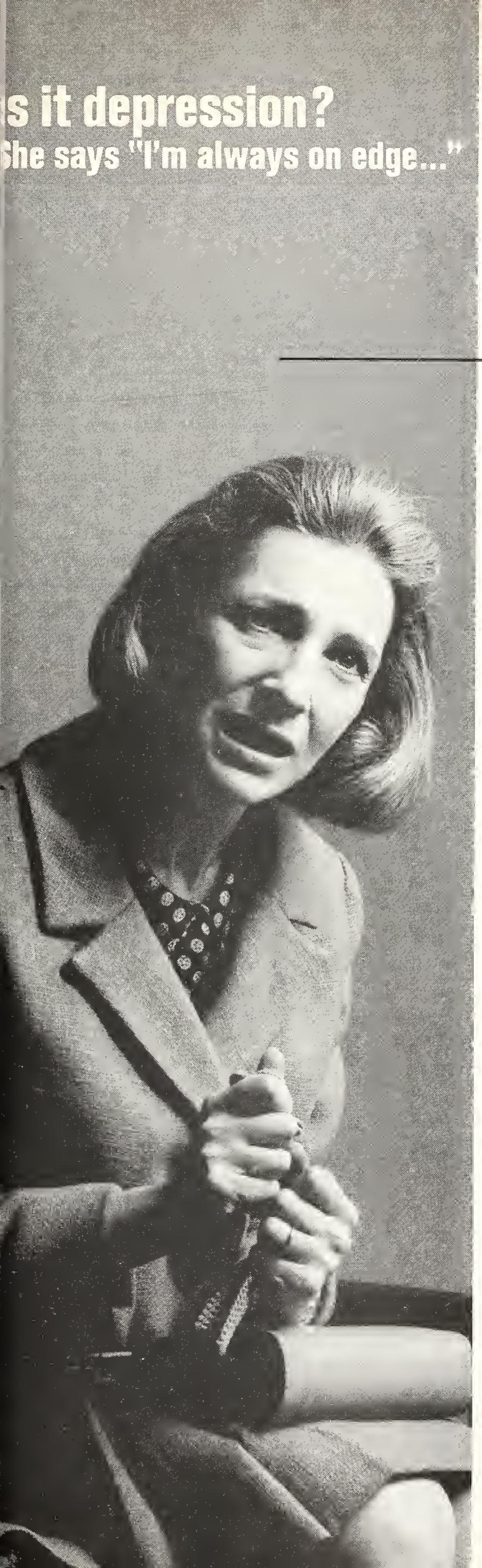

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The Education of a Doctor

By

RICHARD I. NEVIN*

MEDICINE AS A PROFESSION, when properly practiced, is a form of realistic idealism. That is to say, it is a form of service that is the result of dreamers' making their dreams come true. Medicine is a noble profession not because it transports and transforms matter-of-fact individuals who have become associated with it, but because so many truly good and great men and women have given of their high intelligences and refined spirits to it and have lifted it above most other merely human callings.

Medicine is rooted in respect for life and for the Creator of life. It cherishes and seeks to preserve and extend this great gift which God alone can give. It is great-heartedly motivated by deep love for fellowmen. It is moved to compassion by a fellowman's suffering and to heroic limits of self-sacrificing service by the consciousness of a fellowman's real need.

Medicine is all these things or it is not medicine at its best and as it should be. It is and must be all these things or else it could deteriorate into a shoddy commercial venture, indifferently capitalizing on the sufferings of others for exclusively selfish advantages.

Our professional forebears and our contemporaries have given medicine into our hands at its hallowed and exalted best. It is our challenge—and a most difficult one in these spiritually unaspiring, materialistic times—to preserve it from corruption and debasement and to keep it, clean and undefiled, a source of satisfaction to God and to men alike.

There are wild winds of contagion blowing fiercely upon the society of our times. There are lethal germs of spiritual, intellectual, moral and social corruption abroad in the world and in our land. The men and women in whose hands will be the molding of the character of the professions through all the tomorrows are undergoing the formative processes of their education now. If, as men and women, they are ultimately to prefer to serve not God, but Mammon; if they regard their own selfish ends and desires as alone worth seeking; if, for the attainment of their ends and desires, they regard God as only a name to be evoked for rhetorical effect but not as the Creator to whom they must account for their talents and their stewardship; if the sole authority that they accept is that of their own minds and wills; if the good is, to them, that which works for their satisfaction, and evil is that which would defeat their purposes or "cramp their style"; if justice is whatever they want regardless of the rights of others, and alleged right is their title to unmerited rewards; if honor is, in their parlance, "for the birds" and love just raw sexual hunger; if respect is outmoded and gentility spurned; if noise is music and drivel poetry; if education is the process to equip them to demand and get more; and if the material amount of that "more" is the measure of their success as human beings . . . if all these things show signs of coming to pass—and they increasingly do—then for the preservation of the professions, medicine among them, for the restoration of the balance of justice and reason that alone can produce social concord and peace and for the reclamation of civilization itself, we must concern ourselves—and instantly—with the quality of the product which our present system is producing today. I speak primarily concerning the good of medicine, but these considerations are equally germane and equally applicable to all other human vocations and activities, to all levels of civilized life.

A man's education is properly a life-long process—it is not limited to his schooling. It is, rather, that complex and continuous process by which—with the aid of parents, teachers, spiritual mentors and his own disciplined intelligence—a man enlightens his mind by the acquisition of truth and disciplines his will in the pursuit of that which is genuinely good, so as to enable him to live with fruitful satisfaction to himself, his relatives and friends, his fellowmen, his country and his God. A man's education is that life-long process that he consciously and constantly pursues in order to discover and develop his own best and, throughout his life and every aspect of his living, to make the most *of* that best.

Notice, I have not said to make the most *from* it. Certainly every man has the duty and responsibility to acquire enough money to keep himself and his dependents in freedom and dignity. If, however, money is his only goal and his only acquisition—since the government takes most of it from him and death takes all that is left—such a man is a fool. It is of him, or such as he, that Kilmer spoke when he said,

---

* Mr. Nevin is Executive Director of The Medical Society of New Jersey. This article is reprinted from the March, 1967 issue of THE JOURNAL of The Medical Society of New Jersey, pages 103-105.

> And when you think of love and fame
> And all that might have come to pass,
> Then don't you feel a little shame
> And don't you think you were an ass?

Since education is a continuing process, formative of a person's character and life, medical education and training must build upon the foundations already laid in the lives of those who submit to it. Society produces the man or woman who becomes a candidate for medical education. Thus, society must share in the work and the responsibility of evolving the doctor of medicine as he ultimately is. Medicine says, therefore, to society: "Give us a good man or woman properly informed, motivated and disposed, and we will do our part to give you a good doctor." . . . "Give us the sound cloth of your weaving and we will tailor it to serve and satisfy you well."

At the present time, the almost 90 medical schools of the United States turn out about 7,000 new doctors of medicine a year. It is estimated that by 1975, to meet population expansion, over 10,000 medical graduates a year will be required. This means more candidates, more schools, more faculty, more facilities of all kinds and more—much more—money.

Unfortunately, the present system of taxation levies heavily on those whose personal philanthropy formerly used to support medical education and health care. So that more money which is needed means more taxes for the taxpayers to provide. Somewhere, someday, a decision will have to be reached as to how much and how many programs taxpayers can support without themselves turning to government for their maintenance and giving up the ghost. However, the good that medicine does is measurable and indispensable. Better than most programs that demand monied support, medical education and health care represent a sound investment.

Within the last century, Medicine and Surgery have made more progress than in all the centuries and in all the millennia before. Diseases have been conquered by the score, and surgical procedures have been introduced that have about them the aura of the miraculous. People are living longer and have better health than ever before. Whether they are using the added years profitably or are living more happily are questions for philosophers and those who are sensitive to social tendencies and developments to evaluate. But medicine is doing its job, with a magnificence of accomplishment never before known. And the hard work of dedicated research scientists, teachers, students and practitioners has produced this happy situation.

That medicine has succeeded in its goals is clear because death is now matter-of-factly bested, and men and women live to healthy old age. When our economy succeeds, they will thus live on without jeopardizing either their own or the nation's financial soundness and security. When government succeeds, they will live—secure in their lives and property—in justice and in peace.

At any rate, let all of us work together to preserve and advance the progress that medicine has made. It spells wealth of life for all. Let us encourage the young to dedicate themselves to others, to find the joy of worthwhile service and of true success. Let us not penalize those who do so dedicate their lives by making them the objects of undeserved criticism or disparagement or by imposing upon them demands impossible for them to meet without loss of their status and dignity as free men and women.

We need doctors. Let us keep them coming by producing men and women of the character of which good doctors are made. Let us support them in the areas of medical education and protect them from harassments that might discourage their enthusiasm or their efforts.

Medicine and medical education preserve life and health for all and, with life and health, they set us free to indulge in the pursuit of happiness . . . and that, as we all know, sums up the American Dream. Here's to its fulfillment for us all!

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Notes of interest from Here . . . . and There

Five physicians, including an assistant superintendent, have been added to the staff of St. Joseph State Hospital in St. Joseph. **Dr. Nicholaus Bartulica** will serve as assistant superintendent; **Dr. Jose Raphel** will be in the alcoholism unit; **Dr. Mario Decanini** has been assigned to the Park unit; **Dr. Richard G. Bradley** will be in the Buchanan County unit; and **Dr. Jose Bisquerra** will be in the Jackson County unit. **Dr. Liam O'Brien** is superintendent.

Dr. Edward J. Miller, an immunohematologist, has been named contracts manager in the National Heart Institute's National Blood Resource Program. Doctor Miller, a native St. Louisan, received his M.D. from St. Louis University in 1962. He served as instructor in internal medicine at Washington University in 1966.

Dr. Jon R. Leach, who recently received his discharge from the U. S. Navy, is now associated with Drs. **B. F. Byland** and **G. R. Wempe** in Maryville.—**Dr. O. B. Barger,** Harrisonville, coroner of Cass County, will assume the office and practice of **Dr. Herbert A. Tracy** in Belton. Doctor Tracy has moved to California.

Dr. C. E. Ridenhour has joined **Dr. E. J. Schewe, Jr.** in the practice of general surgery in Columbia. Doctor Ridenhour has been practicing at the University Medical Center.—**Dr. C. P. Duren** has joined the medical staffs of the Lebanon Medical Center and the Wallace-Rowden Hospital. A native of South Milwaukee, Wisc., Doctor Duren recently completed specialty training at the Henry Ford Hospital in Detroit, Mich. in the field of internal medicine and cardiology.

Dr. Edward E. Mardini, Bonne Terre, has been appointed to the Washington County Memorial Hospital Medical Staff. He also is serving on the medical staff of the Bonne Terre Hospital.—**Dr. G. W. Winn** has been elected to the board of directors of the Kemper State Bank in Boonville.

The staff physicians for the Dexter Memorial Hospital have formally organized and elected officers. They are **Dr. Robert Jibben,** chief of staff; **Dr. Ralph Rehm,** assistant chief of staff; and **Dr. Ben Till,** secretary-treasurer. According to **Administrator Harry Chrisman,** the opening of the hospital will be soon.

Dr. Lester Garfinkel, formerly of St. Louis, has joined the internal medicine staff at the Ellis Fischel State Cancer Hospital in Columbia as an associate of **Dr. Reginald Pugh,** chief of internal medicine.—**Dr. L. J. Plunkett, Jr.,** a native Texan, has joined the staff of the Lucy Lee Hospital and McPheeters Clinic in Poplar Bluff in the general practice of medicine.

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Alcoholism Is Subject of International Congress

Alcoholism will be the subject of a major international Congress in Washington, D. C. on Sept. 15-20. The event is the 28th International Congress on Alcohol and Alcoholism which is supported in part by a grant from the National Institute of Mental Health, U. S. Department of Health, Education and Welfare.

Dr. Dwight L. Wilbur, President of the American Medical Association, will give the principal address at the opening Plenary session of the Congress which is expected to be the largest professional meeting ever held in the field of alcoholism. Total attendance is expected to reach 2,000 with representatives coming from 20 foreign countries.

Approximately 150 individual papers will be given during the six-day meeting whose theme is “Alcohol, Society and Man.” Subjects for other sessions include “Status of Research Today,” “The Problems of Alcohol,” “Institutional Responses to Problems of Alcohol” and “Communication about the Problems of Alcohol.”

With the exception of war years, the International Congress on Alcohol and Alcoholism has been held every four years since 1885. It comes to the United States for the first time since 1920 at the invitation of the North American Association of Alcoholism Programs, one of five sponsoring organizations.

Among other cooperating organizations are the American Medical Association, American Hospital Association, American Psychiatric Association, American Public Health Association and General Service Board of Alcoholics Anonymous, Inc.

For further information, write to the 28th International Congress on Alcohol and Alcoholism, 1130 Seventeenth St., N.W., Suite 615, Washington, D. C. 20036.

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MSMA 'Docs' Invited to Heart Symposium

Members of the MSMA have been invited by the Missouri Heart Association to attend a two-day Great Plains Heart Associations Symposium at the Sheraton-Ritz Hotel in Minneapolis on Sept. 27-28. Host state for the Symposium will be the Minnesota Heart Association. In addition to MHA, the following seven Heart Associations will participate: Missouri, Iowa, Kansas, Nebraska, North Dakota, South Dakota and Wisconsin.

"Cardiovascular Disease—Practice, Problems, Progress" will be the theme for the meeting which will feature Curbside Sessions on specialized techniques, remedial heart disease, hypertension, diagnosis and management of stroke, cardiovascular drugs, and pulmonary embolism—diagnosis, medical and surgical management. Attendees are encouraged to bring ECGs for discussion.

Additional information may be obtained from your local Heart Association.

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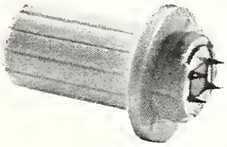

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WASHINGTON

"Improving the quality of life in this country requires that far greater national effort be devoted to reducing the incidence of preventable diseases, accidents and premature death."

This was the theme of a proposal to President Johnson to establish a Commission on Disease Prevention and Health Protection to be appointed by the President to make recommendations within a year.

The President was told that "to continue the present national emphasis upon treatment and after-the-fact remedies, as opposed to prevention, must be regarded as a failure of the health professions to adequately protect the public."

The plan's sponsors, headed by Sen. Warren Magnuson, Chairman of the Senate Commerce Committee, said:

"Many of the diseases currently prevalent can be prevented entirely. Others can be detected and cured in the early stages. In some cases, it is simply a question of instilling awareness, recognizing symptoms or the importance of diet and exercise. Technical personnel and automated laboratory and computerized recording procedures can utilize known techniques to operate comprehensive screening programs. These prevention and early detection programs can save money and conserve scarce physician time. People can be educated to expect health rather than to tolerate illness, to demand prevention rather than to admire belated treatment."

The statement continued, "Benefits can be derived through legislation. Others will accrue through public and professional education. Still further benefits would come from financial support for special professional and non-professional training in the practice of preventive medicine. The following are just a few examples of things that can be done now. For example, we now have the authority to clean the polluted air over most of the major urban areas of this country.

"Other approaches include new methods of paying for an organizing health services. We, at present, invest huge sums in medical care through public and private support. The same means of coverage, however, such as Title XVIII, do not provide for 'health protection': there is no payment for periodic health appraisal on an out-of-hospital basis, with provision for follow-up care. This should include individual and group counselling services necessary for health maintenance and given by a physician or other health professional."

The Magnuson group said that "despite the convincing case for prevention, about two thirds of all medical schools do not have departments of preventive medicine. This lack is appalling. We should at once encourage the establishment or strengthening of these departments in all medical schools and emphasize a more realistic training program for the physicians of tomorrow."

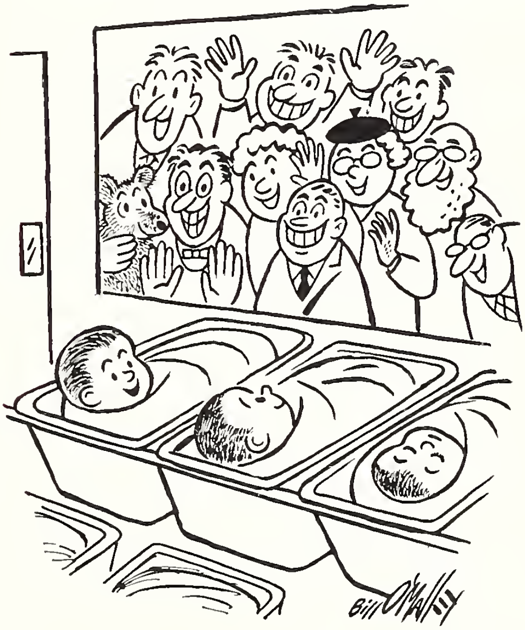
* * *

The 1968 supplemental report on Smoking and Health of the Surgeon General of the Public Health Service reaffirmed that cigarette smoking is a health hazard.

The report was sent to Congress the same day as a Federal Trade Commission recommendation that cigarette advertising be banned from television and radio.

Highlights of the smoking report were:

—New evidence indicating that the life expectancy among young men is reduced by an aver-



"The trick is to single out your old man and smile at him. It really sends 'em!"

age of eight years in "heavy" cigarette smokers or those smoking over two packs a day and an average of four years in "light" cigarette smokers or those smoking less than one-half pack per day.

—Cigarette smoking can contribute to the development of cardiovascular disease and particularly to death from coronary heart disease. Some of the harmful cardiovascular effects appear to be reversible after cessation of cigarette smoking.

—New evidence that the previous finding that cigarette smoking is the most important cause of chronic bronchopulmonary disease in the United States.

—Additional evidence that cigarette smoking is a main cause of lung cancer in men and is casually related to lung cancer in women.

* * *

The John E. Fogarty International Center for Advanced Study in the Health Sciences has been established in memory of the late Rhode Island congressman who was a leader in health legislation for many years. Congress provided an initial appropriation of $500,000 for the new center to start operation in the National Institutes of Health until its own building is completed. The center's first director is Dr. Milo D. Leavitt, Jr., who had been director of the NIH Office of Program Planning.

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U. S. Attorney General Ramsey Clark appealed for broad support and cooperation of the public in enforcement of the laws against marijuana and LSD. "Otherwise," he said, "the law cannot be enforced effectively. Enforcement must be accompanied by research and education." He added, "The youths of today are extremely sophisticated about drugs, and they are also highly selective of the wave lengths they tune in on—the channels of information they select."

* * *

President Johnson named a special committee to develop a five-year program for providing more effective birth control. The study committee will be headed by HEW secretary Wilbur J. Cohen. Mrs. John D. Rockefeller, III, of New York will serve as his co-chairman. An official said that one matter to be studied will be the fact that present methods of contraception are not adequate. He said the so-called "pill" is too expensive for widespread use in some areas and it is difficult to educate illiterate people in its use.

* * *

The National Institutes of Health has asked processors of whole pooled human blood plasma to halt its interstate shipment because the substance has been causing hepatitis in one out of ten patients receiving transfusions. The move is expected to halt use of most such plasma of which about 300,000 pints are given annually to about 100,000 patients in the United States. The agency acted on a report issued in April by the National Research Council saying that use of whole pooled plasma should be discouraged and even discontinued because of the hepatitis danger.

* * *

The Senate Health Subcommittee was told that the nation talks more and does less about its 5 million alcoholics than any of its other health problems. Michael Gorman, a spokesman for the National Council on Alcoholism, said that the losses from alcoholism are now running about $2 billion a year. Dr. Philip R. Lee, Health, Education and Welfare Assistant Secretary, supported Gorman. According to Dr. Lee, alcoholism is an "enormous enconomic liability to the nation" in terms of job absenteeism, lowered productivity and medical insurance expenses.

But please don't forget this:

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of the alka formulation are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Persistent or severe dyspepsia may indicate peptic ulcer; perform upper gastrointestinal x-ray diagnostic tests if drug is continued. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with caution in the first trimester of pregnancy and in patients with thyroid disease.

Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make complete blood counts at weekly intervals during early therapy and at 2-week intervals thereafter. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The more common are nausea and edema. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Drug rash occasionally occurs. If it does, promptly discontinue the drug. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Agranulocytosis can occur suddenly in spite of regular, repeated normal white counts. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, hypersensitivity angiitis, pericarditis and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Painful Shoulder: Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily.

In selecting the appropriate dosage in any specific case, consideration should be given to the patient's weight, general health, age and any other factors influencing drug response. (B)R 46-070-A

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St. Louis AGP Announces Third Symposium

The St. Louis Academy of General Practice and the Tuberculosis and Health Society of St. Louis will hold the third annual joint symposium on respiratory diseases at the Colony Motor Hotel, 7730 Bonhomme, Clayton, on Sept. 29. Registration will begin at 9:30 AM and will be followed by a brief welcome by Dr. Ernest H. Schaper, president of the Academy.

The scientific program will begin at 10 AM. Subjects to be discussed include concepts in tuberculosis control, chemoprophylaxis in TB, current concepts in air pollution, the epidemiology of emphysema and medical management of the emphysematous patient.

Speakers will be Richard L. Riley, M.D., Professor of Environmental Medicine, Johns Hopkins School of Hygiene and Public Health, Baltimore, Md.; Karl H. Pfuetze, M.D., General Administrator, Cook County Tuberculosis Sanatorium, Hinsdale, Ill.; Barry Commoner, Ph.D., Chairman, Botany Department and Director, Center for the Biology of Natural Systems, Washington University; George D. Commerci, M.D., Director, Outpatient Department, Cardinal Glennon Hospital, St. Louis; John A. Pierce, M.D., Director, Pulmonary Disease Unit, Washington University School of Medicine; and Herbert C. Sweet, M.D., Professor of Clinical Medicine, St. Louis University School of Medicine.

Doctor Commerci will speak on “Long Hair—Posters—Draft Cards and Pot” at the noon luncheon.

A special program for the ladies will be presented by Mary Gordon, Trans-World Airline’s feminine travel advisor. Miss Gordon will exhibit shopping treasures from around the world and will give tips on “the best buys” abroad. She will rely upon her experiences in cities and out-of-the-way villages in many countries to answer questions which usually occur to travelers only after they arrive in a foreign country.

A social hour for the physicians and their wives, courtesy of Mallinckrodt Pharmaceuticals, will follow the scientific program.

All physicians in the St. Louis area are cordially invited to attend. An admission fee of $6.00 per person will cover the Symposium, luncheon and social hour. Reservations should be made by Sept. 23 by writing to the St. Louis Academy of General Practice, 3839 Lindell Boulevard, St. Louis, Mo. 63108.

The program is acceptable for four accredited hours by the American Academy of General Practice.

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Missouri State Medical Association

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Sept. 25	**Workshop-Clinic in Dermatology** (For practicing physicians only) Continuing Education, M.U. School of Medicine Medical Center, Columbia
Sept. 25	**Conference—Manpower: Does Health Get Its Share** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Oct. 16-17	**Conference—Team Approach in Rehabilitation** Continuing Education, M.U. School of Medicine Medical Center, Columbia

AMA Accredits MU

The continuing medical education program of the School of Medicine, University of Missouri–Columbia, has received "full approval" by the Council on Medical Education of the American Medical Association.

Accreditation by the AMA Council is a new function. According to Gail Bank, executive director of the University of Missouri's continuing medical education program, a "relatively small number of programs" offered by American medical colleges have been approved at this time.

Blessed event?

Not entirely, when nausea and vomiting occur in early pregnancy. Emetrol offers prompt and safe relief. Local rather than systemic action provides emesis control on contact with the hyperactive G.I. tract.* In a study of 123 pregnant women, the drug produced measurable improvement in 79% of patients in controlling vomiting.[1]

*As shown by *in vitro* studies.
1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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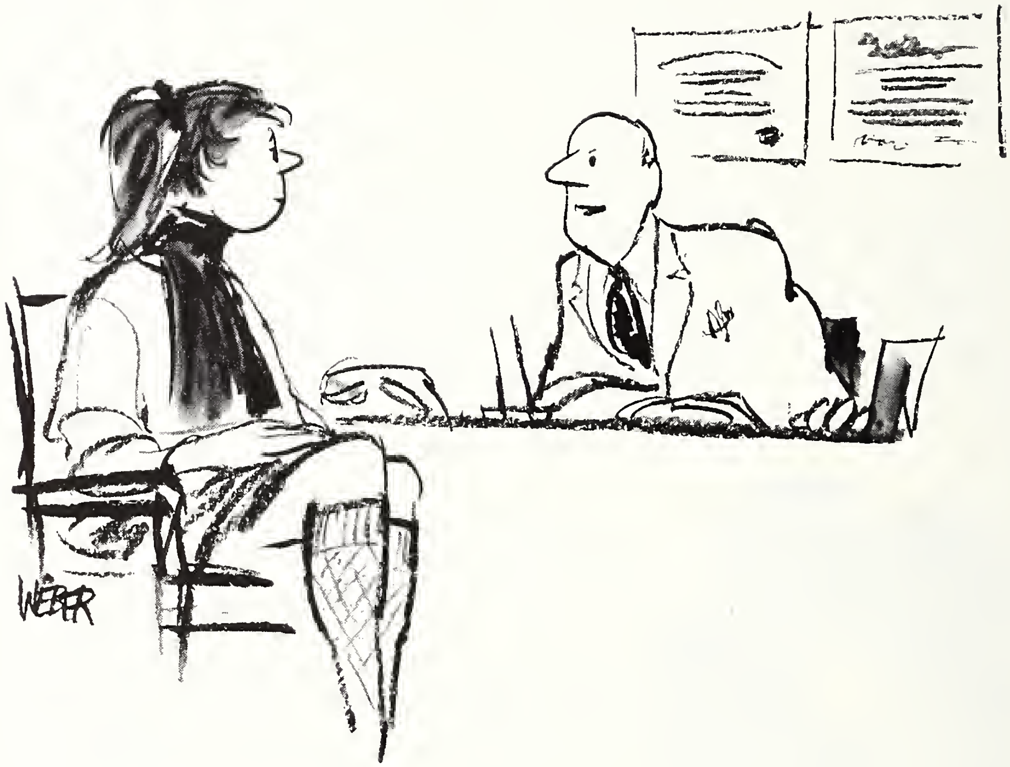

"Now that your acne is clearing up nicely, it might be a good idea if you started losing some weight."

Volume 65, Number 9—September, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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VERNON E. WILSON, M.D., *Columbia*
Vice-President for Academic Affairs
University of Missouri

Missouri Regional Medical Program

An Overview

DURING THE LAST YEAR AND A HALF numerous articles have appeared attempting to explain the role of the Missouri Regional Medical Program and its relationship to the physicians in the state. The most recent appeared in *Missouri Family Doctor* in April and May and are recommended for detailed statements of goals and philosophies. The purpose of the present paper is to clarify those points which seem to be most often misunderstood and to propose a basis for productive endeavors during the next several years. In its future development, the Missouri Regional Medical Program is expected to continue its goal to facilitate communications between the physician who cares for patients and the sources of information that can help him provide the best possible care for those patients.

Elsewhere in this issue the various projects which are presently underway in the Regional Medical program are identified. All but two of the projects which have been operational during the past year are so-called "core activity projects." These were designed to provide assistance to any physician who desires them, anywhere in the state. Their purpose is to assist the physician in selecting from the great array of scientific advances, which continue to become available, those parts most applicable to his patients in his community.

The Smithville and Springfield projects are demonstrations of this approach in action. All new projects for which applications have been at least tentatively approved are similarly community-based. In every instance, the project capitalizes on close communication with the University and the central staff of the RMP program.

A comprehensive description of the Missouri Regional Medical Program, its purpose, its community-based projects and its goals for the future. Doctor Wilson speaks of the University's involvement in and attitudes toward the Program and this unique effort to facilitate communications between the physician and the vast sources of information now available to assist him in providing best possible patient care in the area of heart disease, cancer, stroke and related diseases. He states that the ultimate success of the Program depends entirely upon the initiative of the physicians of the state and their response to this challenge to participate in the design of improved health care patterns for the future.

Perhaps a good subtitle for this article might be "This Is Your Life," borrowing from the recently-popular radio and television program. Regional Medical Programs are a congressionally-implemented, but physician-guided, national expression of the growing public demand to have the advantages of the latest technologies brought to the community, wherever its location. More importantly, however, it is the one large, clearly visible and genuine effort on a nationwide basis to place the responsibility for health planning squarely in the community with the physician in the key leadership role. It has as a running mate the comprehensive health planning endeavor, which, at least in Missouri, thus far has had minimal participation by the medical profession in the design of its policy or in the implementation of early planning. Comprehensive health planning here has been structured to give the consumer and the supporting groups the major role in the design of health care. This difference in posture and plan is of crucial importance.

Regional Medical Programs at present are by far the most favorably financed for planning and demonstration. Nevertheless, MRMP will fail or succeed as a result of the support it receives from the practicing profession rather than the amount of finances poured into it. Insofar as MRMP activities are the result of initiative taken by local physicians who exert their interest and energies in their behalf, they will fulfill the dreams of those who brought this program into being. If this is misunderstood, opposed or simply ignored, the program will play into the hands of those who have always believed that improvement must come from a central direction for the enlightment of those on the periphery. Competition of ideologies is always a sound basis upon which to initiate change. The ideology of RMP is clear, namely, that the medical profession has been in a leadership role and deserves to continue in that role.

From the beginning, the Missouri Regional Medical Program has been based upon grass roots participation. Its Advisory Council is composed of citizens from outside full-time state divisions and the University and includes six physicians. Members of the Council are appointed by the Governor, serve rotating terms and formulate the policy upon which the program is based. Their continued insistence has been that all projects undertaken at the community level should ultimately develop economic self-sufficiency and that any changes in the health care system should be of an evolutionary nature. This is in accord with the original intent of the national act.

The presently-operative programs are dedicated to a number of relatively simple objectives utilizing known but too infrequently applied principles. First, they are based upon the assumption that there is a considerable body of health care need as yet undiscovered by the formal health care system. The Regional Medical Program within heart, stroke and cancer concerns has dedicated itself to finding an improved way to get patients to physicians and into proper and ethical health-care systems.

Secondly, these projects are directed toward finding ways of improving resources available to the physician. These range from a handbook of resources to development of new techniques and distribution of new methodologies. They include improved training for ancillary groups and some types of "automated consultation."

The latter involves back-up for physicians in communities which do not have access to up-to-date or comprehensive medical center resources. Such techniques include "dial-a-lecture" series, automated computer interpretation of electrocardiograms and the computer fact bank. Each is designed to provide for any individual with a telephone the opportunity to obtain pertinent information immediately. While such "automated consultation" is still a research endeavor, its enthusiastic reception suggests an active future. In general, these kinds of activities first will be tested internally and then with medical students and faculty of The University of Missouri Medical Center. Following this they will be tested in hospitals affiliated with the University's School of Medicine. Afterwards, such programs can be tested in the offices of preceptors throughout the state and in demonstration areas, such as Smithville and Springfield. They then will be available for those who have an interest in trying such devices "on the firing line" without the protection of prearrangement. We believe that this type of assistance will be particularly useful in such places as poison control centers, but that it also has applicability far beyond such highly specialized needs.

Other resources which will be made available to physicians include improved postgraduate education programs through leased telephone-teaching circuits originating at the University of Missouri Medical Center. The "dial-a-lecture" program will be designed to provide immediate and direct response to needs as defined by local medical staffs. Initial lectures will be developed around questions asked most often. While this is a more traditional approach, by its very nature it is more easily handled and helps to fill in the spectrum of aids which are easily accessible for the physician's continuing education.

One might appropriately ask why a university and its medical center should have this kind of involvement in improvement of health care. Certainly those of you who are acquainted with the tradition of land-grant colleges will have no difficulty in perceiving the relationship between this kind of medical experiment station and the types of activities conducted for many years in the agricultural and engineering experiment stations. These stations have been established to respond to needs as perceived by the community. Their purpose is to rapidly translate techniques and research results, available through the university, into action in behalf of communities in the state. In the medical experiment station concept, as conceived through the Missouri Regional Medical Program, the intent is to provide similar assistance primarily through the practicing physician, giving to him these advantages and hopefully helping him to understand at the earliest possible date the potential of newly discovered techniques.

One of the responsibilities agriculture and engineering have always had in relationship to these activities now shared by Regional Medical Programs is that of measuring and demonstrating the positive or negative impact of these activities. While no one as yet has measured nor, in fact, defined "good health," a substantial effort in the Missouri Regional Program is dedicated toward evolving such a definition so objective measurement can be carried out in a manner helpful to all concerned.

Meanwhile, traditional approaches are being utilized to help set up standards that can measure to some degree the impact of changes now being proposed and tested. One such activity is "Operation Icepick," which was initiated by the Missouri Hospital Association in cooperation with the Division of Health and is now cosponsored by MRMP. This program provides for the collection of statistical information from hospitals throughout the state and will make possible compilation of baseline data. In terms of disease incidence, it will indicate how many people receive care, for what reasons and where they receive that care. Other basic quantitative information about the state's population and present health patterns and habits is being obtained through surveys conducted by the Population Study Group of MRMP.

Perhaps the most troublesome responsibility of Missouri Regional Medical Program has been its effort to achieve a balance between resources dedicated to central or supporting facilities and those used for field activities, as in Springfield and Smithville. A few principles of approach regarding this division have now been accepted and implemented. The University provides only those service activities which cannot be performed by others or those in need of immediate and intimate research which can be carried out only in the University with its multiplicity of faculty and facilities. Each time the University takes on a service activity, it does so with the intent of working itself out of business so far as service is concerned.

However, a strong central resource unit is important for a number of reasons. It can provide unique assistance, such as prompt access to information not otherwise available, research capability in problems of interest to those in the field and coordination of effort which cannot be provided from the periphery. This kind of unit also furnishes highly sophisticated equipment and personnel, which are needed only rarely but can be found in a university community because their time can be divided between several departments. The unit also serves as a link between the local regional medical program and similar programs being conducted in conjunction with universities elsewhere in every section of the U. S.

Obviously, the most important activities in the Missouri Regional Medical Program are those which take place at the bedside or in the physician's office in Smithville, Springfield and the many other communities to be included in these activities in the future. Quite as important will be the maintenance of some kind of central service and coordination so each of the projects can proceed with full knowledge of lessons learned elsewhere and of new information being assembled. Certainly, at the present time, no one would claim to have discovered what the optimum balance will prove to be. It is our intent, however, to continue the majority of activities at the bedside, while maintaining strong central services at a level necessary to provide response to needs found in the field, and to provide a stable and desirable basis for communication between the field and the University, as well as between the several units within the field.

Summary

We have attempted to answer two or three issues now before the medical profession and to

(*Continued on page 727*)

GEORGE E. WAKERLIN, M.D., ***Columbia***
Director for Planning, MRMP

Planning for the Missouri Regional Medical Program (MRMP)

The primary goal of the Missouri Regional Medical Program (MRMP) is to facilitate fulfillment of the promises of modern medicine for all people of the Missouri Region with particular reference to bringing the newest and most competent services in heart disease, cancer, stroke and related diseases as geographically close to the patient as possible. The final focus is on optimum health for the individual citizen of the Missouri Region with emphasis on assistance to the local practicing physician who is strategically situated to provide medical care and health guidance to his patients and to the community.

Planning for MRMP is directed by the Advisory Council and its committees and by Arthur E. Rikli, M.D., MRMP Program Coordinator. It is staffed by the MRMP Planning Division. Doctor Wilson, formerly Coordinator and now Vice-President for Academic Affairs for the University of Missouri, still maintains an active interest. MRMP is one of the responsibilities of his new office.

The Planning Division Staff of MRMP includes the Director; Warren P. Sights, M.D. and Yeu-Tsu N. Lee, M.D. of Columbia, Associate Directors; Richardson K. Noback, M.D. and Mr. Albert P. Mauro, Associate Director and Assistant Director for Planning, respectively, in metropolitan Kansas City; Stanley S. Peterson, M.D. and Mr. Bacil Steed of Springfield, Consultant and Administrative Assistant, respectively, for Southwest Missouri; and Mr. Lee G. Cochran of Jackson, Consultant for Southeast Missouri.

The Program Evaluation Center of the University of Missouri School of Medicine, directed by David J. Jones, M.D., is responsible for gathering data regarding health and health-related resources of the Missouri Region and for developing methods for evaluating the effectiveness of MRMP in achieving its goals and objectives.

An overall Plan for MRMP was prepared in 1967 and thoroughly revised in early 1968. The Plan was approved by the MRMP Advisory Council and its Committees with the understanding that it will be continually revised and updated. Copies of the Plan have been sent to the Division of Regional Medical Programs and distributed to the coordinators of all RMPs. The essentials of this document, as summarized below, describe the current state of planning for MRMP.

COOPERATIVE ARRANGEMENTS

In keeping with one of the prime purposes of the RMP Law, MRMP has effected cooperative arrangements among the University of Missouri School of Medicine, other University of Missouri schools and colleges, other educational and research institutions of the Missouri Region, hospitals (including community hospitals), practicing physicians, health profession organizations, appropriate voluntary health agencies, official health agencies and consumer groups. Through representation on the MRMP Project Review and Liaison Committees, 30 Missouri organizations, institutions and agencies have an active role in the MRMP planning and operation.

MRMP leadership and staff regard cooperative arrangements as a long term, continuing responsibility and a *sine qua non* for success of the Program.

HEALTH RESOURCES AND NEEDS

In order to facilitate planning and later evaluation of the Missouri Regional Medical Program, the Program Evaluation Center is gathering information regarding health and health-related resources of the Missouri Region, as well as morbidity and mortality figures for heart disease, cancer, stroke and related diseases. Moreover, five MRMP pilot projects now in operation will directly produce important information relative to health resources and needs of the Missouri Region and, at least, five other projects will tangentially supply helpful information. As more data become available, MRMP will be able to plan, implement and evaluate on an increasingly firmer basis.

In summarizing the overall Plan for MRMP as prepared in 1967 and revised early this year, Doctor Wakerlin explains the need for and development of cooperative arrangements with involved groups throughout the state, the priorities extended when considering new project proposals and the guidelines that have been developed to assist local physicians and groups in submitting proposals to MRMP. He also discusses such pertinent subjects as planning for the future; MRMP and continuing education; prevention and early detection of heart disease, cancer and stroke; community health services; and public education and information.

PRIORITIES

Since the primary focus of MRMP is on the delivery of optimum health care to the patient as close to home as possible, top priority is given to pilot projects which will directly strengthen the health care system of the Missouri Region. Prevention and early detection, continuing education and public education-information may be looked upon as parts of the health care system. They also are given high priority by MRMP.

Increasing attention is given to rehabilitation, ambulance services, school health, home care and rheumatic fever prevention as well as to manpower, health careers and emergency medical and dental services. Indeed, when they are part of a proposed comprehensive health care project, they are given high priority by MRMP.

MRMP leadership holds all areas of concern under continual scrutiny and subject to change in priority as the Program unfolds.

CONTINUING EDUCATION

The University of Missouri Medical Center recently initiated an MRMP-supported telelecture project for continuing education of physicians and allied health professions. MRMP also encourages other organizations active in these fields to submit project proposals, particularly ones involving cooperative effort. One MRMP project now under way—the Computer Fact Bank—is primarily concerned with continuing education for physicians, and eight other operational projects include important continuing education components for physicians.

Continuing education for the allied health profession *must parallel in coverage and effectiveness programs for physicians.* Six pilot projects now in operation provide important continuing education for nursing and other allied health professions.

MRMP encourages continuing education project proposals for physicians based in community hospitals, as well as similar efforts for the allied health professions. MRMP also encourages project proposals for the retraining of allied health professionals reentering the health field.

MRMP projects are ordinarily of a developmental and experimental nature and, therefore, supported for a limited period of years with the understanding that those proving successful will be continued under local or other funding and, hopefully, implemented in other communities.

PREVENTION AND EARLY DETECTION

As biomedical knowledge advances, primary prevention of the various forms of heart disease, cancer and stroke will become increasingly effective. In the meantime, increased prevention and early detection require more continuing education for physicians and allied health professions and more public education. Thus, in the Missouri Region, full application of present knowledge would mean a yearly saving of 250 lives from death by rheumatic heart disease, 1,000 from cancer, possibly as many as 2,000 from coronary heart disease and an undetermined number from stroke and from hypertension.

Early detection of heart disease, cancer and stroke will be facilitated by the findings of six MRMP pilot projects now under way.

MRMP will assist communities of the Region in developing screening project proposals when requested by local physicians and other health leaders. Such project proposals should preferably include a new or unusual feature such as custom-designed screening or an innovative approach to more effective follow-up.

Ultimately, every physician's office should become, in part, a prevention and early detection center for heart disease, cancer and stroke.

HEART DISEASE

There is need for wider application of knowledge about the surgical correction of congenital heart disease, rheumatic heart disease, peripheral vascular disease and cerebrovascular insufficiency due to extracranial arterial disease, as well as for knowledge relative to diagnosis and treatment of hypertension and follow-up of congestive heart failure patients. An estimated 1,000 lives could be saved per year in the Missouri Region by prompt application of cardiopulmonary resuscitation and by making intensive cardiovascular care or coronary care units available in community hospitals for all heart attack patients in need of such care.

Accordingly, MRMP emphasizes the need for additional intensive cardiovascular care and/or coronary care units in Missouri Region hospitals including community hospitals, as well as for establishing training centers for such units. At least ten MRMP projects now under way relate to the care of heart disease patients. They include an intensive cardiovascular care unit in one community hospital (Springfield), a coronary care unit in another (Smithville) and a coronary care unit at the University of Missouri Medical Center. MRMP also is authorized to initiate a programmed cardiovascular care unit at Kansas City General Hospital and Medical Center (KCGHMC). Three of these also will serve as training centers.

STROKE

The great majority of strokes involve either hypertensive cardiovascular disease or atherosclerosis or both, but data are still imprecise and more long term studies of etiology and pathogenesis are needed. Identification of the stroke-prone individual offers increasing promise, but much remains to be done. The MRMP Bioengineering project and the Ultrasound-Radiology project offer prospect of detecting altered blood flow patterns. The MRMP-sponsored Intensive Care Stroke Unit at the University of Missouri Medical Center is concerned with improved diagnosis and treatment of stroke and will provide training for the staffs of other medical centers and hospitals. The Northeast Missouri Cooperative Stroke Project centered at Kirksville emphasizes rehabilitation and its early implementation. A number of other MRMP pilot projects also assist in providing better care for stroke patients.

MRMP encourages the submission of project proposals for two or three innovative community stroke programs. The programs may be hospital-centered, based on home care or traveling clinics or a combination of these as determined locally and should give appropriate emphasis to long term treatment.

CANCER

The Missouri Cooperative Tumor Registries project is supported jointly by the Bi-State (St. Louis-Southern Illinois) RMP and MRMP. The project will provide centralized information about cancer patients from hospitals and clinics which diagnose and treat such patients in Missouri.

Elimination of cigarette smoking will significantly reduce the incidence of lung cancer. The effectiveness of public education toward this objective is expected to be advanced by MRMP Communications Research Unit project findings and by increased utilization of University Extension Division facilities, including 4H clubs.

Early detection of cancer will be facilitated by such MRMP pilot projects as Multiphasic Testing, Mass Screening-Radiology and Automated Patient History, as well as several project proposals now under consideration (if implemented).

MRMP places strong emphasis on more effective prevention of early detection of cancer in the Missouri Region and pledges wholehearted cooperation with efforts directed toward this objective.

COMPREHENSIVE HEALTH CARE

The most important MRMP project involving comprehensive health planning now in operation is the Comprehensive Health Services Program at Smithville, since it exemplifies in microcosm the essential aims of MRMP for communities of the Missouri Region and of all RMPs for communities of the United States.

MRMP encourages the development and implementation of a comprehensive health services program in two or three other communities of the Missouri Region. As steps in this direction, MRMP also encourages project proposals for (a) further improvement in the care of heart disease, stroke and/or cancer patients, (b) community health centers (preferably associated with community hospitals) and (c) coronary care unit demonstrations pointed toward solution of the problem of such units in smaller community hospitals.

All MRMP projects now under way ultimately relate to comprehensive health care and several involve collaboration with the Smithville project.

RELATED DISEASES

The Regional Medical Program Law specifies heart disease, cancer, stroke *and related diseases*. MRMP interprets the last to include diabetes mellitus, renal disease, precancerous conditions and pulmonary diseases producing cor pulmonale.

During its regular 1968 session, the Missouri Legislature voted an appropriation of $100,000 to be utilized by MRMP during 1968-1969 for the development of a chronic renal disease-renal dialysis program. This is the first appropriation by a state legislature to an RMP for operational purposes. At a special meeting on July 1, 1968, the MRMP Advisory Council approved an award of $60,000 to the Kansas City General Hospital Medical Center to help finance its chronic renal disease program. The remaining $40,000 will be allocated at a later time.

Project proposals aimed at the foregoing "related diseases" are invited by MRMP.

COMMUNITY HEALTH SERVICES

Community health services considered in this section include rehabilitation, ambulance services, school health, home care and rheumatic fever prevention.

There is need in the Missouri Region for several demonstration rehabilitation units in appropriate community hospitals. When necessary, every physician in the Region should be able to refer his cardiac patients to a reasonably accessible work evaluation unit. Also, the benefits of rehabilitation for heart, stroke and cancer patients must be repeatedly emphasized by continuing education of the health professions and by health education of the public.

One community of the Missouri Region is developing an ambulance service project proposal which may well serve as a model for other urban-rural areas.

With reference to school health, the Missouri Heart Association has submitted a pilot project proposal involving early detection of heart disease in school children.

Home care services need strengthening in metropolitan areas of the Missouri Region, but especially in rural areas. Such programs are best developed in relation to community hospitals. Home care also is an important component of several current and pending MRMP projects.

Rheumatic fever prevention and the need for more continuing education of physicians and other health professions as well as more public education have already been emphasized. Recently, the Missouri Heart Association implemented a pilot project which will enhance rheumatic fever prevention in the Missouri Region.

PUBLIC EDUCATION AND INFORMATION

Despite the excellent efforts of the Missouri Division of the American Cancer Society, Missouri Heart Association, Missouri Tuberculosis and Respiratory Disease Association, Missouri Society for Crippled Children and Adults, Missouri Division of Health, Missouri State Medical Association and Missouri Interagency Council on Smoking and Health, much remains to be done through public education toward achieving maximum application of existing knowledge regarding prevention, early detection and care of heart disease, cancer and stroke. Thus, one third of current cancer deaths could be prevented if the seven danger signals of early cancer were better known and heeded promptly. The public needs to be more aware of the importance of self-examination of the breast, Papanicolaou smear and other procedures for early cancer detection. Likewise, the carcinogenic effects of cigarette smoking, especially for lung cancer, require continued emphasis. There also is great need for more public knowledge of the benefits of rheumatic fever prophylaxis, stroke prevention, control of asymptomatic hypertension and reduction of the risk factors of coronary heart disease. Indeed, reduction of these risk factors (dietary saturated fat, obesity, cigarette smoking, physical inactivity and hypertension) has more potential for reducing morbidity and mortality in the United States than any other health measure now available.

To facilitate cooperation of official, voluntary and professional organizations active in public education-information in the Missouri Region, MRMP established a Public Education Committee consisting of representatives of these organizations which recommended that initial health education emphasis through University Extension be given to smoking and health.

MRMP now supports a Communications Research Unit-School of Journalism pilot project which aims to increase the effectiveness of health education materials and procedures.

For many years, the University of Missouri Extension Division has emphasized nutrition and home economics and one of the 4Hs is "Health." The Extension Division and MRMP look forward to significant collaboration in pioneering effective health education about heart disease, cancer and stroke via Extension facilities.

MRMP welcomes health education project proposals particularly when they involve collaboration of voluntary, professional and official Missouri agencies already active in this field.

MANPOWER

The subject of Health Manpower is significantly related to every phase of MRMP. There will always be a relative shortage of health personnel which precludes waste of this resource due to insufficient information or lack of understanding of the skills and abilities of professional groups.

MRMP, through the Program Evaluation Center, has begun a Health Manpower Study which should continue throughout the life of the Program. Material from previous studies is being collated to provide a baseline upon which to build a new methodology for the approach to health manpower data. Such data stored on magnetic tape will be essential in establishing a continual communication network with the various health professional groups.

MRMP encourages the development of training courses and programs for all levels of health care and public health management personnel and would cooperate with academic public health and medical care administration programs of the University of Missouri and other graduate schools by serving as one of the inservice training sites for such programs.

Health Careers

The Missouri Council on Health Careers, Missouri Hospital Association, Missouri State Medical Association, Missouri Nurses Association, Missouri League for Nursing, Future Nurses of Missouri, Women's Clubs and Rotary are active in recruitment for health careers in the Missouri Region. The Missouri Health Council has prepared a Manual on Health Careers in Missouri under MRMP auspices. The Missouri Council on Health Careers and Missouri Hospital Association are developing a recruitment project proposal for MRMP consideration.

MRMP encourages all organizations of the Missouri Region with health careers potential, including the University Extension Division, to strengthen their efforts and collaboration in recruitment of young men and women.

Emergency Medical Services

Heart attack, stroke and motor accident patients are most acutely in need of emergency medical services. Hence, the concern of MRMP for such services.

Informing the Health Professions and the Public

All but four county medical societies of the Missouri Region have been directly informed of MRMP. The remaining societies will be informed during the fall of 1968. Osteopathic physicians have been informed, as have members of the nursing profession. All health professions, health related agencies and interested lay organizations of the Missouri Region not yet informed are invited to request speakers from MRMP.

This information task is open-ended since, once the health professions and the public are informed about MRMP, they must be kept appraised of progress to stimulate development of new pilot projects and to insure understanding and full utilization of health care advances catalyzed by MRMP.

Interregional Cooperation

The Kansas RMP and MRMP already are engaged in joint planning and operation with regard to Metropolitan Kansas City, as well as on Regional bases. Appropriate interrelations have been developed with the Memphis Regional Medical Program and the Arkansas RMP, and cooperative arrangements are under way with the BiState (St. Louis-Southern Illinois) Program. Negotiations are in process for more active cooperation with a number of other RMPs, particularly the remaining six RMPs bordering on the Missouri Region.

Development and Submission of Pilot Project Proposals

MRMP believes that all health and health related institutions, agencies, organizations and leaders of the Missouri Region should be aware of their opportunity to develop and propose projects to MRMP for the benefit of their respective communities.

Guidelines have been prepared to provide communities, organizations, institutions and other groups with information concerning benchmarks used by the MRMP Advisory Council and its committees in judging the merits of proposed pilot projects and determining priorities for transmittal to the Division of Regional Medical Programs.

Inquiries may be addressed to Dr. George E. Wakerlin, Director for Planning, Missouri Regional Medical Program, Lewis Hall, 406 Turner Ave., Columbia, Mo. 65201. The MRMP Planning Division Staff will be pleased to advise with reference to the preparation of project proposals. Indeed, early involvement of the Staff in project planning is likely to facilitate development of the project proposal and formal submission to MRMP.

Inquiries from Metropolitan Kansas City, Southwest Missouri or Southeast Missouri may be addressed respectively to Dr. Richardson K. Noback, Medical Director, Kansas City General Hospital and Medical Center, 24th and Cherry Kansas City, Mo. 64108; Dr. Stanley S. Peterson, 1835 South Stewart, Suite 105, Springfield, Mo. 65804; and Mr. Lee G. Cochran, Jackson, Mo. 63755.

Future

The national climate is increasingly favorable to RMP. Thus, in January, 1967, Charles L. Hudson, M.D., now a Past-President of the American Medical Association, urged practicing physician concern with prevention and early detection, health team leadership, community health services and community health planning.[1] In January, 1968, Dwight L. Wilbur, M.D., now President of the AMA, stated that RMP "can make a real contribution to personal health services if it continues to pursue what appears to be its main thrust today—to serve as catalyst for and to facilitate those winds of change which blow in the right direction."[2]

Achievement of the primary goal of MRMP over the next decade (as stated in the first paragraph) will require continued and effective cooperation and participation of the medical and other health professions, laymen and consumer groups, health and health related organizations and institutions, government agencies and communities of the Missouri Region.

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Missouri Regional Medical Program (Cont'd)

delineate the challenge which appears to exist. We believe that the University should be involved and that it has a specific and unique contribution to make in assisting the physician with the problems which confront him in his particular practice. We believe that the Regional Medical Program stands alone in offering the profession both the opportunity and the challenge to participate in the design of improved health care patterns for the future, even though the present area of activity is categorically limited to heart, stroke, cancer and related diseases. While we do not maintain that we have found the perfect balance between supporting service and peripheral activities, these relationships are under constant study and will be subject to continual revision as a great variety of individuals assisting us throughout the state bring to bear their advice, consultation and constructive criticism. The success of Missouri Regional Medical Program activities is totally dependent upon the initiative and the response of physicians in the state. This, we believe, is exactly as it should be.

The Advisory Council of the Missouri Regional Medical Program has awarded $60,000 to the Kansas City General Hospital Medical Center to help finance its chronic renal disease program.

These funds are part of the $100,000 appropriated by the Missouri Legislature last March to MRMP to initiate patient care and research in kidney disease in the state. The remaining $40,000 will be allocated at a later time, according to Nathan J. Stark, Council Chairman of Kansas City.

The Kansas City Program began its second year of decreasing Federal support on July 1. The U. S. Public Health Service is providing $287,000 of a $359,000 total budget for the program of the remaining $72,000, KCGHMC is providing $12,000 and the balance was made up by action of the MRMP Council.

ARTHUR E. RIKLI, M.D., ***Columbia***
Director for Operations, MRMP

Operational Program for Missouri Regional Medical Program (MRMP)

The Operations Division of MRMP is responsible for implementing more than 20 projects developed by the Planning Division. Doctor Rikli reports that the three basic types are (1) projects that define heart, cancer and stroke problems and evaluate impact of MRMP; (2) projects that assist in preventing or detecting these diseases; and (3) projects that aid physicians in providing diagnoses, therapy and preventive measures.

The Missouri Regional Medical Program seeks to provide optimum health for the greatest number of people by accelerating the application of effective preventive and therapeutic measures for heart, stroke and cancer patients or those with related diseases.

The Missouri Regional Medical Program Operations Division is responsible for implementing those activities that have been developed by the Planning Division through the Missouri Regional Medical Program review groups and is given financial support by the Regional Medical Program National Advisory Council.

These financially-supported projects may be divided into the following three groups:

1. Projects that define the nature of the heart, stroke and cancer problems and the effect of the Missouri Regional Medical Program.
2. Projects that aid in bringing heart, stroke and cancer suspects into the health delivery system.
3. Projects that aid physicians in providing effective diagnostic, therapeutic or preventive measures to those who need them.

It is the Missouri Regional Medical Program plan to help close the time gap between discovery and application by introducing innovations into the Missouri health delivery system on a demonstration basis and, in this way, aid heart, stroke and cancer patients in receiving better diagnostic and therapeutic measures from their traditional sources of health services.

Defining and Measuring

The first group of projects defines the nature of heart, stroke and cancer problems in Missouri and seeks to measure the effect of the Missouri Regional Medical Program upon these problems. For any health program to be effective, it is essential to know who has or is prone to have a disease. In what kind of an environment are they living, what health services do they need and which ones are they demanding and receiving? The "Population Study Group Surveys" represents Missouri Regional Medical Program's effort to determine the nature of the heart, stroke and cancer problem in this region. This project will be supplemented by the "Automated Hospital Patient Survey" when we find appropriate staff to assist Missouri hospitals in assessing the services used by heart, stroke and cancer patients.

The physician's office is where most patients gain access to the services of health workers and related resources that make up the health delivery system. Analysis of this system to aid in determining rational innovation is the responsibility of the "Operations Research and Systems Design" project. This project is using its skills to analyze the forces at play within the Missouri Regional Medical Program and is proposing more effective use of resources.

As we acquire information germane either to a specific problem or to a solution, we attempt to simulate the anticipated effort through model development and testing. This work is carried out by the "Data Evaluation and Computer Simulation" project.

The most difficult task in introducing an innovation into the health delivery system is to foretell the effect or value of the innovation. Today's health delivery system is the product of innumerable variables that have been introduced by both the consumers and producers of health services. Most changes have been made upon an empirical basis rather than upon a carefully calculated cost-benefit basis. As therapeutic measures develop (such as renal dialysis and organ transplants which can prolong a productive life at costs that no individual or his family can afford), there arises a critical need for methodologies to evaluate the practice of such extraordinary measures. This is one of the responsibilities of the "Program Evaluation Center" project.

The "Communications Research Unit" has set out to determine and measure the elusive factors in communication which cause people to react or not to react under varying circumstances. The medical profession has had little real success in "selling" the principles of well-being to the public. Our "Communications Research Unit," for the first time, is delving deeply into this crucial problem on a scientific and closely controlled basis.

Detecting or Predicting

The second group of projects involves our initial efforts to determine the most effective methods for detecting persons who either have or are prone to have heart disease, stroke or cancer. Although there are many forces that influence the ways by which a person may gain access to the health delivery system, the Missouri Regional Medical Program is directing its primary effort toward means of detecting signs of disease. The names of three of these projects are self-explanatory. They are, (1) Multiphasic Testing, (2) Mass Screening-Radiology and (3) Automated Patient History.

The fourth project, "Bioengineering," provides support to several projects through the development of new or different kinds of electronic and mechanical "packages." One such development, for example, has involved the design and building of a "diagnostic chair" that looks like an ordinary, comfortable reclining chair. In less than two minutes and without the need for attached terminals however, it can produce three-lead electrocardiograms. Other measuring devices are being built into it at present.

Closing a Gap

The third group of projects intends to stimulate the flow of information from its research source to the physician who needs it in order to provide the best possible diagnostic or therapeutic services to his heart, stroke or cancer patients.

Modern information storage and retrieval methods are being blended so that they will be readily accessible to the inquirer as he considers various diagnostic possibilities suggested by signs and symptoms in a patient. Physicians now may acquire answers to such questions by time-consuming inquiry into the medical literature. It is the mission of the "Computer Fact Bank" to provide this information much more rapidly and pertinently than would be available in any other way.

The second project in this group, and one of the best models reflecting the use of modern information-handling devices to serve the health needs of persons with heart disease, is the "Automated Electrocardiography" project. It is providing physicians with computer interpretation of electrocardiograms at six different locations. The system has been developed during the past ten years and is now being field tested by the Missouri Regional Medical Program. It is anticipated that, in the near future, computer interpretation of electrocardiograms will be as readily available to physicians in Missouri as their telephones. This method could be used with phonocardiograms, electroencephalograms and many other diagnostic signs. Computers are finding their place in the practice of medicine as a diagnostic aid to a physician.

Computers, however, are merely tools for helping the diagnostician or the practicing physician. They neither can, nor probably ever will, supplant the basically vital "doctor-patient" relationship that is the keystone of effective medical practice.

What we do with these machines, or, indeed, with any of the products of medical research is being studied with utmost care, and their applications are being introduced into Missouri's health delivery system with careful restraint.

We look upon all such activities as critical experiments and we are carrying them out in two carefully selected communities under limited, controlled conditions and only with the closest collaboration with professional and administrative personnel in those communities. We are proceeding with caution because we believe that the future of the Missouri Regional Medical Program depends upon our ability to learn how to carry out experiments like the "Smithville" project and the "Comprehensive Cardiovascular Care Unit" in Springfield in a way that will result in the heart, stroke, and cancer patients in these communities enjoying an improvement in their health services after these projects are completed.

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GAIL BANK, M.S. *and* **WILLIAM D. MAYER, M.D.,** ***Columbia****
Associate Project Director and Project Director, MRMP

Continuing Education for the Health Professions

ALTHOUGH THE LEVEL OF HEALTH CARE in the United States is considerably higher than that in many other nations, it has a potential of being even higher. How rapidly we approach this potential level will depend to some degree upon the extent to which provisions are made by educational institutions for continuing education for physicians and other health professionals. Even more important is the extent to which those currently in the health professions and those who will enter the professions will involve themselves in the process of continuing study of each other's professions throughout their years of practice. In these days of rapid growth in biomedical knowledge, continuing education becomes the bridge between what is known and what is applied.

It is estimated that knowledge currently applicable in medicine is twice as great as it was a decade ago and that it will double again in another decade. This staggering volume of information makes it impossible for a physician to learn during his professional education everything necessary for a lifetime of practice. Eliminating or even slowing down the development of new knowledge or lengthening the time requirements for professional school education are impractical alternatives. Thus, it becomes imperative for those in the health professions to take increasing responsibility for continuing study in their career lines and for educational institutions to provide increased opportunities for continual learning.

Since its beginning, the University of Missouri Medical Center has supported the view that continuing education needs to be an integral part of the day-to-day, week-to-week practice of health professionals. Present and future activities are directed toward making appropriate contributions to a totally integrated system of education based upon the premise that learning should be a lifelong activity, the ultimate goal being the improvement of health care. This concept envisions a time when health professionals will have at their disposal mechanisms with which to engage in learning activity at any time, at any place and at whatever breadth or depth desired for their own self-learning and for the needs of their patients. To help accomplish this, access to great libraries, other clinicians, researchers, teachers, consultants, teaching-learning materials and all manner of pertinent data and information will be immediately available. In this concept, continuing education is both a means to an end and an end in itself.

The concept of lifelong learning has brought about changes in educational activities for practicing professionals and also has been an influence upon the teaching programs within professional schools. There has been a shift from emphasis upon the acquisition of information to selection, organization and evaluation of information. At the Medical Center, for example, multidisciplinary laboratories and teaching-learning centers are being introduced. These facilities will make it possible for students to interact with the basic material and, also, with many additional sources of information. Students, thus, can progress as rapidly as they wish with the aid of texts, recorded lectures, films, video tapes, computers and other devices. Developing self-learning habits early in the students' professional education better equips them to direct their own continuing education activities following entry into practice.

There also has been a shift from isolated programs for different health professions to bringing the professions together in patient-oriented education activities. This reflects an increasing interdependency among the professions in the delivery of health care. It also prepares them for future participation in interdisciplinary continuing education activities.

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* Mr. Bank is Executive Director of Continuing Medical Education and Associate Professor of Extension Education and Doctor Mayer is Dean and Director of the University of Missouri School of Medicine.

The University Medical Center, recognizing these needs, established an office of Continuing Medical Education to develop and carry out various educational programs. Faculty supervision is provided through the Committee on Continuing Medical Education and includes representatives from the clinical departments of the Medical Center, the basic science departments, and nursing, medical technology, physical therapy and other health professions. Liaison and advisory arrangements with various professional groups are actively maintained. Thus, the educational needs of many health professions are coordinated and the interrelationships of the various health professions are incorporated in the educational activities.

Many educational opportunities have been developed for different health professions. Conferences and workshops have been presented at the Medical Center, as well as at various locations in the state. Efforts are made to involve the audience in each of the conferences rather than to rely on lectures alone. Panel discussions, with opportunity for audience questions, are frequently employed. Other techniques include small group discussions; live case presentations; presentations directly from the clinical areas via closed circuit television with direct questioning from the audience; workshops in which the professional learns skills and techniques; extensive use of audio-visuals; and presentation of summary materials, bibliographies and reference materials.

Recognizing the difficulty professionals in the health care fields have in leaving their practices to engage in scientific programs at distant points, the Medical Center has helped to provide scientific programming at hospital staff meetings, at meetings of medical societies and other professional associations. This is accomplished through a Speakers' Bureau. Programs for meetings arranged through this service usually take the form of a single presentation with subsequent discussion about the materials presented. During the guest speaker's visit, he often provides consultation, makes rounds or discusses various facets of a particular problem with local professionals.

As important and extensive as these activities are, they fall short of involving health professionals in educational activities associated with day-to-day, week-to-week patient responsibilities. Since the majority of health care is provided locally, local health care facilities need to incorporate an educational function in their responsibilities. It can be the source of educational linkages with practitioners in offices, clinics or other local settings, and the Medical Center can assist and support the educational function of local health care facilities.

Continuing education contributes to the elevation of health care by reducing the time between biomedical discovery and its application. The authors also state that it should be an integral part of the day-to-day practice of health professionals who have educational linkage to practitioners in offices, clinics and other local settings through local health care facilities. They tell how, through appropriate cooperative arrangements, the Missouri University Medical Center can assist and support the educational function of local health care facilities.

An important start has been made in this direction. Regularly scheduled, illustrated lectures and discussions via amplified two-way telephones to a few hospitals in Missouri are being made on a test basis. Presentations are by Medical Center faculty and various practitioners in the state. The speaker is heard simultaneously at widely separated locations and his slides and other visual materials are projected locally for instantaneous viewing. Questions can be asked and answered, and discussion from many distant geographic points is possible. Programming is arranged at hours when most physicians are normally at the hospital and are not required to absent themselves from their patients and practice.

Telephone activities to date represent only a beginning in the development of this technique's potential activity. While programming has been limited to only a modest number of physicians, requests from physicians at other hospitals and from other health professions far exceed our current ability to respond. The major deterrent to expanding this technique to more hospitals and to other professions is the lack of funds.

Involvement of educational institutions in continuing education activities requires more than a recognition by individual faculty members of the value of continuing education in the process of health care delivery. It also requires a philosophical commitment and a demonstrated capacity of the institution to be of educational service to society.

The University of Missouri has a long history of commitment to this educational philosophy as well as to educational service beyond the campus. The roots of this philosophical commitment go back to discussions prior to the establishment of the University in 1839. Further ideas stemming from this philosophy spring from the establishment of the University as the land grant institution immediately following the Civil War, the establishment of the Agricultural Experiment Station in the late 1800's to do research and devise ways of improving the state's economy and the establishment of the cooperative extension service in 1914 to help disseminate research findings.

The extension of the educational resources of the University from the campus to the citizens of the state is known as the Extension function of the University. This responsibility is now of such importance it warrants administrative responsibility by a vice-president of the University. The extent of the University's commitment to this educational function also may be judged by the fact that more than 700 persons are engaged in discharging this responsibility. There is at least one University Extension representative in each county.

No single organization has a corner on educational expertise or has sufficient resources to meet the continuing education needs of the present, much less the needs of the future. However, the necessary expertise can be made available by tapping the health manpower pool of the state. Financial resources are potentially available through federal legislation which created the Regional Medical Programs.

Regional Medical Programs originally were conceived as a means of providing health services through a system of complexes including regional centers and diagnostic and treatment facilities. Services grown out of recent research findings were to be made available to patients through these complexes. The original concept, however, was drastically modified to eliminate the regional center concept. Legislation finally enacted (PL 89-239) calls for "regional cooperative arrangements among medical schools, research institutions and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke and related diseases." Thus, continuing education became an important component of the law establishing the Regional Medical Programs; it assumes that same importance in the eyes of those implementing the Law at the national level.

At the local level, the framework of cooperative arrangements now established by the Missouri Regional Medical Program among the University, state professional societies, state health agencies, voluntary health agencies, the hospitals in the state and individual practicing physicians does, indeed, offer a superb base of interrelationships upon which to build meaningful programs in continuing education.

What educational opportunities might be possible through the University, Missouri Regional Medical Programs and other agencies if necessary cooperative and funding arrangements are made? The potentialities are impressive and exciting. Only a few of the ideas under discussion will be mentioned here.

The telephone lecture service is being expanded with MRMP support to include more hospital locations and educational programming in nursing, physical therapy, medical technology and other health professions. Presentations can be made by practicing professionals, Medical Center faculty and faculty of other institutions. The format can be extended to include case presentations, journal clubs, seminars and other activities. Programming might be presented in a time span so that health professionals on different work shifts can participate. Slides and other visual materials used in presentations and a tape recording of the presentations might be made available to each receiving point as a library resource. This initial educational communications network might well be the forerunner of more sophisticated systems involving FM broadcasting and two-way television. The latter system offers the potentiality of presenting patients for immediate consultation.

Establishing an educational communications system will enhance the capabilities of data transmission, rapid transmission of EKG's and their interpretations, access into vast medical library resources, rapid transmission of library materials and access to computers with their multitude of medical applications.

Regular teaching situations in hospitals, using local patients as teaching materials, might be arranged. Through this device, which is comparable to the "clinical clerkship" in medical schools, members of different health professions become directly involved in learning situations concerning their patients.

Opportunities might be provided whereby members of different health professions can return to a professional school to study some particular aspect of his or her profession in greater depth than possible locally. Instruction would be under the tutelage of a faculty member; presentation of materials to be covered would be worked into a time schedule compatible with the time schedule of the health professional. To the greatest extent possible, the health professional would be assimilated into the daily teaching and patient care activities of his faculty preceptor. The possibility of providing "locum tenens" coverage for the local practice should not be excluded.

Continuing education for the health professions is many faceted. The skills, energies, imaginations and financial resources of many individuals, agencies and organizations are needed to provide necessary opportunities for continuing education. However, dedication on the part of health professionals to continually learn and study during their years of professional activity also is required.

The combination of adequate resources for continuing education and increased involvement of health professionals in the processes of continuing education can only result in the constant elevation of levels of health care. The University of Missouri Medical Center has been and continues to be committed to significant efforts in continuing education. The framework of cooperative interrelationships of all the professions, agencies and institutions provided for by MRMP can only enhance the effectiveness of all as we strive to increase the quality and quantity of continuing education for all health professions in Missouri.

Operational Program (Cont'd)

At Smithville, which is, in effect, our "pilot" community, we are considering the whole person and the several factors which may have brought him to the condition of apparent illness at the time he seeks his doctor's help. Health care does not begin when a patient enters a doctor's office or a hospital, nor does total health care end when he is discharged. We need to be concerned with such matters as how to keep from becoming ill, the *best* care for a person who is ill and how to best readjust to normal living after medication has ended.

At Springfield, through the energetic efforts of a number of highly motivated physicians, the Missouri Regional Medical Program is acting as a powerful catalytic force in developing an ideal comprehensive cardiovascular care program. To this end, a model "cardiac hall" has been developed at St. John's Hospital where an entire area is devoted entirely to intensive, intermediate and recuperative care of heart patients.

A "Manual of Services," prepared by a Missouri Regional Medical Program team of researchers in cooperation with the Missouri Health Council, provides the first list and thorough description of all medical and paramedical services in the state. It soon will be available to every physician in the state, as well as to many other persons who are concerned with the well-being of our people.

Dr. Robert Q. Marston has been appointed to succeed Dr. James A. Shannon as director of the National Institutes of Health. He has been administrator of the NIH's Health Services and Mental Health Administration since April 1.

Dr. Marston joined the NIH in 1966 as the first administrator of the Heart Disease, Cancer and Stroke Regional Medical Programs. In accepting his new post, he listed knowledge and then money and manpower as the key factors in future improvements in the health of Americans.

LAWRENCE C. KINGSLAND, JR., M.D., ***Columbia****
Project Director, MRMP

The Computer Fact Bank

THE PHILOSOPHY, PLANS AND CURRENT ACTIVITIES in developing a pilot-scale operational Computer Fact Bank designed to assist physicians throughout the state in their daily practice are described in this article.

In the smallest towns, as well as in the larger population centers, physicians would like to have almost immediate, carefully considered, concise answers to any one of millions of complex medical questions on diagnosis and treatment; this is almost impossible in today's world.

Versatile communications networks linking large computer-based informational systems and hundreds of remote display devices are becoming commonplace in the business world where individual items of information tend to be far simpler and answers more clear cut. In medicine, the bottleneck is not devices, but the primitive state of definition, standardization and synthesis of the medical knowledge and logic involved, plus the need for systems and programs tailored to meet specific medical needs.

"Wall-to-wall" money, in volumes to which the military and space industries have become accustomed, only could begin to make a dent in the formidable informational, logical and logistic problems involved in furnishing "instant medical wisdom" upon request. Even large, in-depth teams of medical and surgical specialists working in shifts around the clock, 365 days a year, would require versatile communication systems and an elaborate, continuously updated Platform of Organized Knowledge or Data Bank with most of the features of our pilot model from which to furnish instant expert advice. Moreover, most physicians, lacking detailed knowledge of other physicians' exact medical background and understanding of the patient's manifestations and problems, know that furnishing what amounts to "medical consultations" at a distance would be fraught with danger to all concerned.

A progress report on the developing Computer Fact Bank, which is an open-ended collection of biomedical information equivalent to several hundred thousand text pages. It will be rapidly accessible to physicians, medical students and other health professionals by means of local and remote terminals linked to a central computer and by microforms available through computer-oriented, automatic retrieval and display devices. Doctor Kingsland also discusses the Missouri University Medical Center's CONSIDER programs to which the Fact Bank continually adds current biomedical content.

Furnishing "informational consultation" on demand, however, is another matter. The busy physician wants specific answers, not long sets of bibliographic references. He knows from sad experience that the articles and texts he seeks, even if theoretically "available" in his vicinity, often will be "out on loan," "at the bindery" or lurking in some benighted faculty member's desk drawer or briefcase. The Missouri Regional Medical Program's Fact Bank is designed to allow the user to enter the system with his own chosen words and concepts and to help him to "negotiate his own" request for information. Requests can be made locally or on remote teleprocessing terminals. Some terminals will have cathode ray tube ("television-like") display features.

The Fact Bank is an open-ended collection of all kinds of biomedical information, equivalent to several hundred thousand text pages, and selected to contain appropriate current facts, definitions, basic science, clinical and research information. A small but exceedingly important and increasing proportion (now about 2,000 pages) of the Fact Bank will be in machine-readable form, i.e., on magnetic tape. The vast majority of the collection (now about 150,000 pages) is journal, monograph and textbook material on 16 mm microfilm in cartridges and on microfiche. Any one of these pages or any item in the machine-readable portion of the file can be displayed automatically within a half a

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[*] Doctor Kingsland is Associate Professor, Department of Community Health and Medical Practice, University of Missouri School of Medicine. This investigation was supported in part by Public Health Service Research Grant GM 09907-03.

'CONSIDER' PROGRAMS DEVELOPED BY THE STAFF
OF THE
UNIVERSITY OF MISSOURI MEDICAL CENTER COMPUTER PROGRAM

The name "CONSIDER" was chosen for the program, or system, since it implies that if a patient has certain input findings, i.e., signs, symptoms, x-ray findings and so on, his physician should *consider* the possibility that his patient may be suffering from one or more of the diagnoses suggested by the program. The original programs were used on the IBM 1410 with printer and punch card outputs in early versions, and CDC or IBM 2260 cathode ray tube outputs in later (IBM 360-50) versions. During the past three years, both students and faculty alike frequently have used CONSIDER programs: students especially during the end of their second year when they are most active in learning varied clinical terminology or when studying unusual patients on the ward; faculty when seeking exhaustive suggestions for consideration in clinical-pathological conferences and even on clinical research projects.

Dr. Burgess Gordon of the American Medical Association Editorial Staff deserves great credit for developing the unique collection of condensed clinical information concerning several thousand diseases and conditions found in the present 1966 Third Edition of *Current Medical Terminology* (CMT) published by the American Medical Association. The entire 500 pages of text also are kept in machine-readable form on magnetic tape. A tape version constitutes the data base upon which, with certain additions, all University of Missouri Medical Center CONSIDER programs operate. A new, larger and much improved fourth edition of CMT is due early in 1969.

CONSIDER programs accept sets of signs and symptoms (e.g., pain or tenderness in various regions of the abdomen), X-ray findings (e.g., gaseous distention or changes in intravenous pyelography), or laboratory findings (e.g., increased white count or urinary changes). They then display or print out lists of diseases consistent with the input items, plus STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS and INTERNATIONAL CLASSIFICATION OF DISEASES, ADAPTED numbers when available. One begins to appreciate the potential importance of such programs for clinical diagnosis and medical education generally when "Porphyria, Acute, Intermittent" and "Pancreatitis, Interstitial, Acute" appear along with the more usual diagnoses, "Pyelitis, Acute" or "Appendicitis, Acute" in response to input items. Much, of course, remains to be done in improving definitions, obtaining better synonym control, extending the medical content and improving the logic and arrangement. However, the system, as is, is highly useful.[1]

An interim program, available for use on IBM 360 systems, produces remote cathode ray tube displays on 2260 terminals and also has teleprocessing (IBM 1053) typeout capability. A much more elaborate and far faster program called EXPANDED CONSIDER is under active development.

minute by means of existing programs and equipment.

The key that unlocks the wealth of detail in the Fact Bank is the unique Depth Index or Thesaurus. Now under construction, the Depth Index will be kept entirely in machine-readable form. The Depth Index is based on the National Library of Medicine's MEDLARS Subject Heading Authority Lists merged with the College of American Pathologists' *Systematized Nomenclature of Pathology* and the Indexes and Tables of Contents of several representative important textbooks and monographs. It retains all important semantic and hierarchical relationships and eventually will total more than 100,000 clinically or biomedically important key words and concepts.

The user will enter the Fact Bank via the Depth Index with the key word or concept of his choice. He will be led rapidly to the preferred terms in the system and, in some cases, will be shown their definitions and the present word association map or "universe of discourse" now centering around these terms. This process will give him direct reference numbers to appropriate machine-readable output or, where this is not yet available, to selected relevant literature on microfilm.

Alternatively, the user may have access to condensed machine-readable clinical information via "CONSIDER" Programs developed by the staff of the University of Missouri Medical Center Computer Program under the direction of Dr. D. A. B. Lindberg. Messrs. Larry Rowland, Manager of Advanced Systems Planning; Charles Buck, Manager of Systems; Joseph Schroeder, Senior Systems Analyst; William

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HUBERT J. VAN PEENEN, M.D. *and*
JAMES B. FILES, M.D., ***Columbia****
Project Director and
Associate Project Director, MRMP

Laboratory Multiphasic Testing Today

The MRMP Multiphasic Testing Project is concerned with making available information that is useful clinically. The authors show that it has become practical to do a large battery of clinical chemistry tests as a screening device for the detection of disease. They state that with a computer even normal results can be interrelated mathematically and may offer clues to future disease before symptoms appear.

At this moment, laboratory multiphasic testing is limited to 12 clinical chemistry tests and four hematology tests that can be performed on Technicon Corporation Sequential Multiple Analyzers. The tests are serum glucose, urea nitrogen, uric acid, total protein, albumin, calcium, inorganic phosphorus, total bilirubin, alkaline phosphatase, glutamic oxalacetic acid, lactic dehydrogenase, cholesterol and whole blood hematocrit, hemoglobin, white count and red count. The Analyzers make it practicable to do all these tests as a routine hospital admission battery. By making available sooner some of the results that would ordinarily be requested during hospitalization, it would be possible to discharge patients earlier to justify the extra cost of testing by decreasing total hospital cost.

The test battery also should be useful in office practice[1] and as a health screening device in discovering unsuspected disease in patients who have not consulted a physician. As such, it serves to introduce patients into the health care system.

The multiphasic testing project of the Missouri Regional Medical Program is concerned with evaluating the presently available test battery for its diagnostic value, for deciding which tests should be excluded and which new ones added and for determining the interrelationships of test values which may be more meaningful than any one normal or abnormal test value by itself.

TEST BATTERY FINDINGS IN MISSOURI

To date, two Missouri subpopulations have been tested with a battery of tests similar to that performed by the Sequential Multiple Analyzers. The first consists of newly-admitted inpatients at the University of Missouri Medical Center and the second consists of long term inpatients of Missouri State Psychiatric Hospitals. The first group demonstrates the abnormalities caused by overt disease. The second group is supposedly free of serious organic disease but, nevertheless, harbors many patients who either have or are developing the degenerative diseases with which the Regional Medical Program is primarily concerned. More than 3,000 patients from each group have been tested to date. In the near future, a third population is to be added. It will consist of outpatients seen by the physicians of a representative Missouri community.

Preliminary results from patients of the State Psychiatric Hospitals were recently published in this journal.[2] Preliminary results from the inpatient UMMC population are now being processed. Our results and those from many other groups[3-10] confirm that a large number of obviously abnormal laboratory results can be found by screening supposedly healthy persons, especially those more than 40 years of age. Ninety percent or more of the abnormal tests are derived from only five tests in the 16 test battery. The five tests are serum glucose, urea, uric acid, cholesterol and hemoglobin. Characteristically, of course, a reduction in hematocrit and red count accompanies a reduction in hemoglobin.

COMMENT

Although only five tests provide most of the abnormal results, with the equipment available today it is actually easier and cheaper to do all 16 than only the five. Furthermore, interrelationships of the other "normal" values may prove to be diagnostically useful in the future. Progress in instrumentation is rapid, and it is very probable that it will be easier to add new tests as they prove useful than to eliminate old ones.

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* Doctor Van Peenen is Associate Professor of Pathology and Doctor Files is Resident Physician at the University of Missouri School of Medicine. This investigation is supported in part by USPHS Grant CD-00235.

Our concern is no longer that of providing large amounts of information about a patient. It is to make the information provided clinically useful. Laboratory data is now available. Soon, many parameters of physiological testing being studied in other projects of the Missouri Regional Medical Program also will be available, yet it has not been proven that the discovery of abnormal results in any way benefits the patient. Hopefully, demonstration of abnormalities can and will lead to preventive treatment.

Studies under way in this project coupled with the resources of the computer-based fact bank of the Missouri Regional Medical Program should make it possible to more specifically interpret normal and abnormal laboratory findings and so aid the physician in maintaining the good health of his patient. Conclusive studies along these lines will take many years but are in progress.

Summary

It has become practical to do a large battery of clinical chemistry tests as a screening device for the detection of disease. A third of the tests yield most of the abnormalities, but interrelationships of normal values obtained for the others may prove diagnostically useful in the future.

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Computer Fact Bank (Cont'd)

Morse, Systems Analyst; and Mrs. Susan Morse, Programmer, are among others who helped develop the CONSIDER Systems Programs.

In summary, the Fact Bank and associated Depth Index will enable the User (1) to choose material hopefully containing answers to his specific questions at the time of his greatest interest and clinical need; (2) to become aware, at the same time, of the availability of additional new information, some of which, perhaps, he was not consciously seeking; and (3) to reestablish active contact with an ongoing information system designed to challenge him and promote habits of lifelong learning in his chosen profession.

Due to the categorical nature of our grant, we are concentrating on heart disease, cancer, stroke and related diseases, but, also, are including much additional material of direct interest to physicians everywhere.

This fall, we begin our first real-life trials of the system on medical students, friendly colleagues and captive audiences. When suitable feedbacks have been received and evaluations, necessary revisions and improvements have been made, we will be ready "to go on the air" throughout the state. Meanwhile, we will be glad to demonstrate the system as it evolves to interested physicians and would welcome their comments and suggestions.

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PETER L. REICHERTZ, M.D., ***Columbia****
Project Director, MRMP

Mass Screening Radiology

This MRMP Project aims at developing radiological techniques for mass screening and at improving the accuracy of radiological diagnosis for heart disease, cancer and stroke. Doctor Reichtertz explains how computer-assisted diagnosis is being made available to hospitals in Missouri as well as in the University of Missouri Medical Center. He indicates that ultrasound techniques and thermography also are being investigated as a means of detecting arteriosclerotic disease and cancer.

THE OBJECTIVES of the Mass Screening Radiology Project are to develop radiological techniques for mass screening and to improve the accuracy of radiologic diagnosis in the areas of heart disease, cancer and stroke by making computer-assisted diagnosis available to other hospitals as well as to the University of Missouri Medical Center. Furthermore, ultrasound techniques and thermography are being investigated in order to provide a means for the early detection of arteriosclerotic disease and cancer, with special emphasis on cerebral circulation and brain tumors.

In order to attain these goals, the acceptability and efficiency of various electronic communication media are being tested. Previously developed techniques of computer-aided diagnosis are being expanded and perfected. The full range of application of ultrasound in the diagnosis of neoplastic and vascular diseases has to be determined, and techniques must be developed to apply ultrasound and thermography to mass screening situations.

"RADIATE" is a computer-oriented part of the project. A system has been developed for the synthesis, standardization, formatting, coding and transmission of radiology reports. The radiologist using the system to describe his findings is interfaced with the computer by means of television-type terminals on which are displayed queries to which he responds by typing in code letters on a keyboard similar to that of a typewriter. Information previously fed into the computer may be retrieved by the same terminals. When the report is finished, it will be stored in the computer, will become part of the patient's record and will be transmitted to the ward or, eventually, to other hospitals or the office of a physician. If the radiologist seeks diagnostic aid, a number of questions will be displayed to which he answers according to his own findings. When he has answered all the questions, the computer calculates and displays the possible diagnoses.

At the moment, RADIATE is operational in the Department of Radiology of the University of Missouri Medical Center. The system is based on the investigations of Doctor Templeton and co-workers.[1-3] Numerous programming problems had to be solved.[4-6] Extensive studies were done to determine standard terminology for the type of radiological examination, the anatomic sites to be described and the radiological diagnosis. This standardized terminology is stored on magnetic disks. Each term can be retrieved by radiologists using RADIATE by specifying the first four letters of any word in the pertaining description. When several applicable descriptions are stored, all are displayed and the radiologist may choose the most accurate term. This may enhance the accuracy of the report. Furthermore, the user may be guided through the different anatomic sites pertaining to a certain type of examination. This is intended to be a teaching feature for residents.

Fig. 1 shows the initial display by which RADIATE introduces itself to the radiologist. Fig. 2 gives an example of the display of diagnostic terms retrieved by the keyword "ULCE." Modifiers to the description (such as acute, healing, left, right, etc.) may be added. Fig. 3 gives an example of a report generated in the described fashion. Each time the radiologist specifies a diagnosis, he has to assign a probability estimate of accuracy (confidence level 1-9). Free text comments may be added and precoded standard reports may be generated by specifying a code number.

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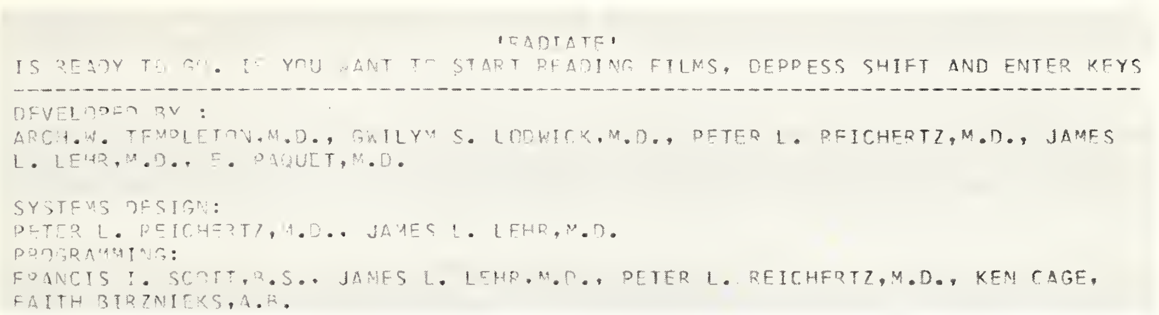
* Doctor Reichertz is Association Professor of Radiology Science and Director of Radiology Computer Research at the University of Missouri School of Medicine.



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                                 'RADIATE'
IS READY TO GO. IF YOU WANT TO START READING FILMS, DEPRESS SHIFT AND ENTER KEYS
--------------------------------------------------------------------------------
DEVELOPED BY :
ARCH.W. TEMPLETON.M.D., GWILYM S. LODWICK.M.D., PETER L. REICHERTZ,M.D., JAMES
L. LEHR,M.D., E. PAQUET,M.D.

SYSTEMS DESIGN:
PETER L. REICHERTZ,M.D.. JAMES L. LEHR,M.D.
PROGRAMMING:
FRANCIS I. SCOTT,B.S.. JAMES L. LEHR.M.D., PETER L. REICHERTZ,M.D., KEN CAGE,
FAITH BIRZNIEKS,A.B.
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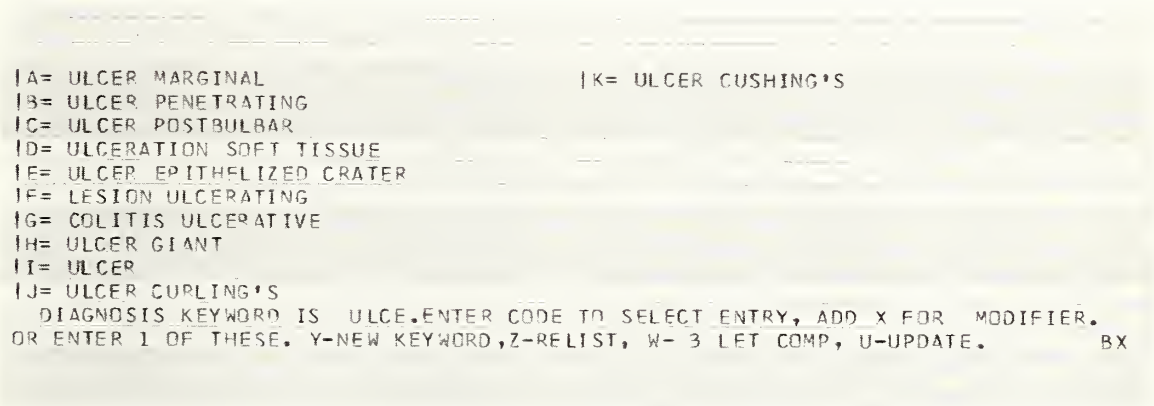
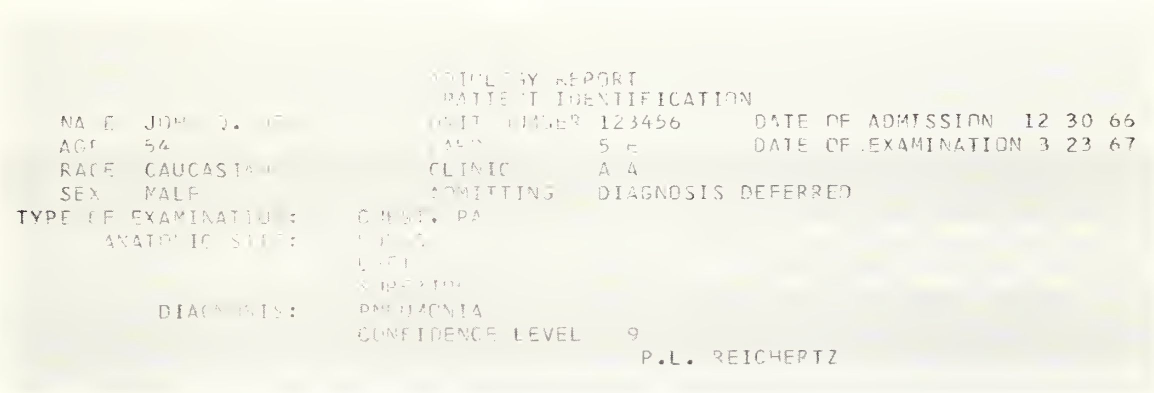
Fig. 1 Introductory display of "RADIATE." It instructs the radiologist how to proceed in order to have access to the system.



```
|A= ULCER MARGINAL                            |K= ULCER CUSHING'S
|B= ULCER PENETRATING
|C= ULCER POSTBULBAR
|D= ULCERATION SOFT TISSUE
|E= ULCER EPITHELIZED CRATER
|F= LESION ULCERATING
|G= COLITIS ULCERATIVE
|H= ULCER GIANT
|I= ULCER
|J= ULCER CURLING'S
  DIAGNOSIS KEYWORD IS  ULCE.ENTER CODE TO SELECT ENTRY, ADD X FOR  MODIFIER.
OR ENTER 1 OF THESE. Y-NEW KEYWORD,Z-RELIST, W- 3 LET COMP, U-UPDATE.        BX
```

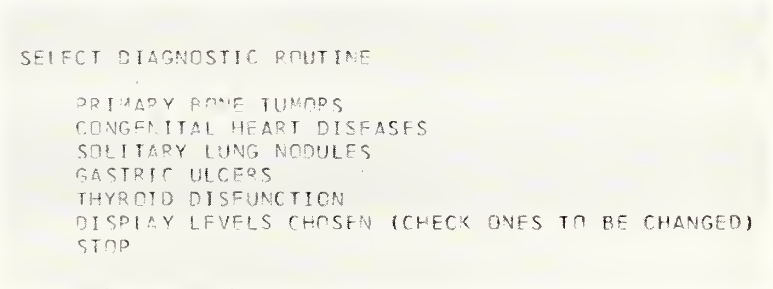
Fig. 2 Display of the diagnostic terms that are retrieved from the information stored on magnetic storage devices by the keyword "ULCE." In this case, the physician has chosen the term "Penetrating Ulcer" and has specified that he wants to add modifiers (such as acute, chronic, etc.) to the description.



```
                             RADIOLOGY REPORT
                              PATIENT IDENTIFICATION
    NAME   JOHN Q. [illegible]   UNIT NUMBER 123456     DATE OF ADMISSION  12 30 66
    AGE    54                    WARD        5 E        DATE OF EXAMINATION 3 23 67
    RACE   CAUCASIAN             CLINIC      A A
    SEX    MALE                  ADMITTING   DIAGNOSIS DEFERRED
 TYPE OF EXAMINATION :       CHEST, PA
        ANATOMIC SITE:       [illegible]
                             LEFT
                             SUPERIOR
           DIAGNOSIS:        PNEUMONIA
                             CONFIDENCE LEVEL    9
                                                  P.L. REICHERTZ
```

Fig. 3 Report generated by "RADIATE."

Fig. 4 Display of the currently implemented diagnostic routines. Whenever a number of questions has been answered, the most probable diagnoses will be displayed. The specified symptoms may be redisplayed (option: display level chosen) and symptom descriptions may be changed in order to come to a better diagnosis.



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SELECT DIAGNOSTIC ROUTINE

     PRIMARY BONE TUMORS
     CONGENITAL HEART DISEASES
     SOLITARY LUNG NODULES
     GASTRIC ULCERS
     THYROID DISFUNCTION
     DISPLAY LEVELS CHOSEN (CHECK ONES TO BE CHANGED)
     STOP
```

At the present time, computer-aided diagnosis is available for primary bone tumors, congenital heart diseases, solitary lung nodules, gastric ulcers (differentiation between malignant and benign ulcers) and thyroid disfunction. Fig. 4 shows the display from which the physician may make this choice. The diagnostic programs are based upon the investigations of Doctor Lodwick and co-workers.[7-11]

At the present time, the system is ready for application in several hospitals connected by a computer network. Ultimately, private physicians might participate. RADIATE's use will result in the acceleration of report transmission, the improvement of diagnostic accuracy and the central storage of findings.

The work in "Ultrasound and Thermography" is being carried out by Dr. P. Wollschlaeger. Ultrasound techniques to improve the detection of intracranial masses and cerebral displacement are being explored, as well as methods to evaluate cerebral perfusion. Ultrasound methods are being tested in order to provide means for the detection of vascular lesions by measuring frequency alterations due to the Doppler effect. Plans are to develop techniques to detect and visualize areas of vascular malfunctions, especially in the cerebral systems, by means of thermography. This method is based on the measurement of emission of infrared (heat) waves. The emission spectrum is influenced by vascular lesions and underlying tumors. Early tests have yielded satifactory results, but engineering changes of existing equipment have to be made in order to provide more effective means for mass screening. This is being done in cooperation with the Bioengineering Project of the Missouri Regional Medical Program.

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A special progress report on Federal Health Programs published by the National Health Education Committee includes the following items:

—The death rate in the U. S. is now as low as it has ever been in history. It is 3% lower than it was in 1963.
—Cancer, the "number two killer of Americans," claimed 300,000 lives in this country last year. *But* one cancer patient in three is now being saved, against one in four just a few years ago.
—Our infant death rate has declined 13% since 1963 to a record low of 22 deaths per 1000 live births in 1967.
—There's been a 19% decline in rheumatic fever and chronic rheumatic heart disease deaths since 1963; a 22% decline in the same period for hypertensive heart disease fatalities; a 21.6% decline in chronic and unspecified nephritis and other renal sclerosis deaths; and a 5% decrease in mortality from vascular lesions affecting the central nervous system (strokes).

In explaining various federal programs that are helping to bring about these striking improvements, the Report discusses the Regional Medical Programs and, among them, singles out "the Missouri Region (which) is pioneering new services to enable doctors and patients anywhere in the area to use computer-assisted X-ray diagnosis and other advanced techniques." The Coronary Care Unit as a concept for local and community hospitals is also credited for helping bring about these reductions.

JOHN C. LYSEN, Ph.D.* *and* **ALLEN PURDY, M.S.,** ***Columbia***
Project Director and Deputy Project Director, MRMP

Bioengineering in MRMP

The team of bioengineers of MRMP assist the Program by testing, measuring and developing devices and equipment that will aid the physician in diagnoses and treatment of patients. The authors report that the results of their efforts include the development of a diagnostic chair, a cerebrospinal fluid pressure monitor and a therapeutic current generator for the rapid healing of decubitus ulcers.

BIOENGINEERING IN MRMP is perhaps a misnomer. A more appropriate name in this case might be medical engineering. If this calls to mind a man in white coat with a stethoscope hanging out of one pocket and a slide rule sticking out of the other and surrounded by numerous wires, tubes, pumps, transistors and IBM cards, then the image is correct.

The human body, as viewed through the bioengineer's eyes, is the most exquisite machine of all. Where else can one find every known principle of engineering (and unknown, too) in one bundle, topped by a computer unrivaled by artificial means?

The relationship of bioengineering to MRMP springs from the object of MRMP, i.e., to deliver the best possible medical care to as many people as possible. To this end, we seek to assist and extend the hands, eyes, ears and, presumptuously, the wisdom of the physician.

In real terms, this takes several forms:

A. *Sensing and quantitation* of physiological information with the use of all available engineering sophistication needed for that task. This means searching for or originating designs and the actual construction of prototypes to that end.

B. *Signal Conversion.* Sensing (or transducing) of information usually results in electrical analog signals. These signals must be converted to meaningful numbers or language for the physician. This takes the form of analog to digital conversion, digital computing and a read out system. Bioengineering shares this function with the engineering computer team.

C. *Advisory Service.* The physician and medical researcher are often faced with the problem of matching different brands of equipment or the selection of equipment to work in a given environment. To assist with this problem, we have amassed an extensive file of the latest commercial equipment available. Further, we are able to recommend modifications for a successful installation. Bioengineering also maintains contact with the Midwest Research Institute for the retrieval of medical research information.

One of the major efforts of the bioengineering group is directed toward multiphasic screening The diagnostic chair is an outgrowth of these efforts. The diagnostic chair records spirometry, pulse wave velocity, automated blood pressure, heart sounds (including vibrations) and automated EKG. A working model of the chair has been built and is capable of transducing pulse waves, heart acoustics and three lead electrocardiograms. In addition, the commercial apparatus used in conjunction with the chair will allow the taking of spirograms and automatic blood pressure. At the present time, this information can be gathered in less than three minutes. We currently are involved in computer analysis of this information as well as improvement of the apparatus. In addition to assisting in the evaluation of the above data, computer analysis will calculate cardiac output (90% correlation with the Fick Method).

To help achieve the MRMP goals, a number of other projects have evolved from without and within our group. A cross-section showing the widely variable character of these bioengineering projects is as follows:

—A cerebrospinal fluid pressure monitor. This unit gives a continual readout of CSF pressure.

—A therapeutic current generator for the rapid healing of decubitus ulcers.

—Application of ultrasound to organ location and possible atherosclerosis diagnosis.

—A simple rapid method of damping cardiac catheters for maximum frequency response

(Continued on page 745)

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* Doctor Lysen is Director of the Engineering Experiment Station at the University of Missouri.

DONALD A. B. LINDBERG, M.D. *and*
P. RUDOLPH AMLINGER, M.D., ***Columbia****
Project Director and
Deputy Project Director, MRMP

Automated Analysis of the Electrocardiogram

Focusing on a technique of computer processing of electrocardiograms developed by the U. S. Public Health Service, the authors are seeking to develop a working system in Missouri using telephone lines to link outlying areas with a central computer at the University Medical Center for rapid and accurate reading and interpreting of EKGs. They discuss their efforts in detail and report that the system is now in daily operation in the offices of six collaborating physicians or groups of physicians.

IT IS OUR INTENT to start with a system for computer processing of electrocardiograms which was designed and produced by Cesar Caceres, M.D. and his colleagues at the Instrumentation Field Station of the Heart Disease Control Program of the United States Public Health Service. We wish to make this system available, so far as we are able, to a large group of physicians in a number of communities within and, also, eventually outside the Missouri Region *to assist* them in interpreting their patients' electrocardiograms. Selection of the Caceres system for implementation as a Missouri Regional Medical Program project followed a very careful study and evaluation of all alternative systems.

We wish to provide for collaborating physicians in medical settings outside of Columbia the appropriate "data acquisition carts" and related equipment so that they can make recordings of their patients in the usual fashion, produce a traditional paper tracing for their inspection and, also, transmit a magnetically-recorded version of the same examination via telephone lines to Columbia for parallel computer interpretation.

Existing "dial up" telephone lines are being used, along with a Wide Area Telephone Service (WATS) billing arrangement. No special private or leased lines will be employed unless it can be shown that the telephone connections truly limit the operation of the system.

We will be selecting additional collaborators (through an appropriate advisory committee) primarily with the objective in mind of testing our system in a large number of different medical settings. Only the collaborating physicians in those communities can tell the profession about the true contribution to care or to saving of physician time contributed by operation of the system.

Our ultimate objective, should all preliminary testing phases end satisfactorily, is to provide 24-hour-a-day computer service via telephone with reasonably short "turn around time." Within the present project, cardiographic signals will be recorded on high quality tape in Columbia and batch processed by the computer. The results will be returned to a teletype printer in the collaborating physician's office as soon as possible. An important issue for us to resolve in this setting is one familiar both to physicians and computer men, namely, how to balance the economic advantages of batch processing against the convenience of immediate processing.

An objective for future study is to determine the medical worth of simple automation of the interpretation of the electrocardiographic signal as opposed to all of the other benefits ordinarily derived from consultation with a cardiologist.

SYSTEMS DESIGN

Fig. 1 presents the arrangement of necessary equipment. Fig. 2 reproduces an actual interpretation as it was received in the collaborator's private office. Fig. 3 presents a portion of the criteria by which the computer program judges the electrocardiogram.

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* Doctor Lindberg is Associate Professor of Pathology and Director of the Medical Computer Center and Doctor Amlinger is Associate Director of Physiological Monitoring of the Medical Computer Center at the University of Missouri School of Medicine. This investigation is supported by USPHS grant 3-503-RM-0009.

Status of the Investigation

Data acquisition carts and telephone data sets have been installed in the offices of six collaborating physicians or groups of physicians. They include Cecil Auner, M.D., Springfield; C. L. Clark, M.D., Trenton; Wallace D. English, M.D., Cardwell; P. Hill, M.D., Kansas City; Jack M. Mart, M.D., Columbia; and B. M. Stuart, M.D., Boonville.

The system is in daily operation, except for the expected delays associated with malfunctioning new equipment. Breakdowns of the data acquisition carts in the doctors' offices have been relatively more common than we originally expected. The computer operates from 8 AM to midnight on Monday through Friday and from 8 AM to 5 PM on Saturday. During those hours, we are able to assure collaborators of immediate (10-20 minutes) processing of any examination they classify as a medical emergency. The remainder are getting out on a "same day" basis.

Our present collaborators are testing the system in the following different medical settings: a University medical center; the heart station of a community hospital with cardiologists; a community hospital without cardiologists; a city hospital emergency room; the office of a private physician in solo general practice in a small com-

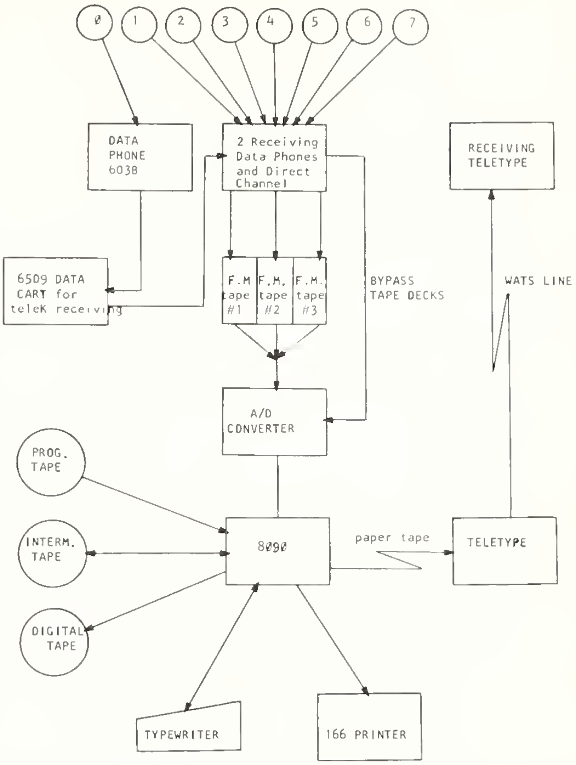
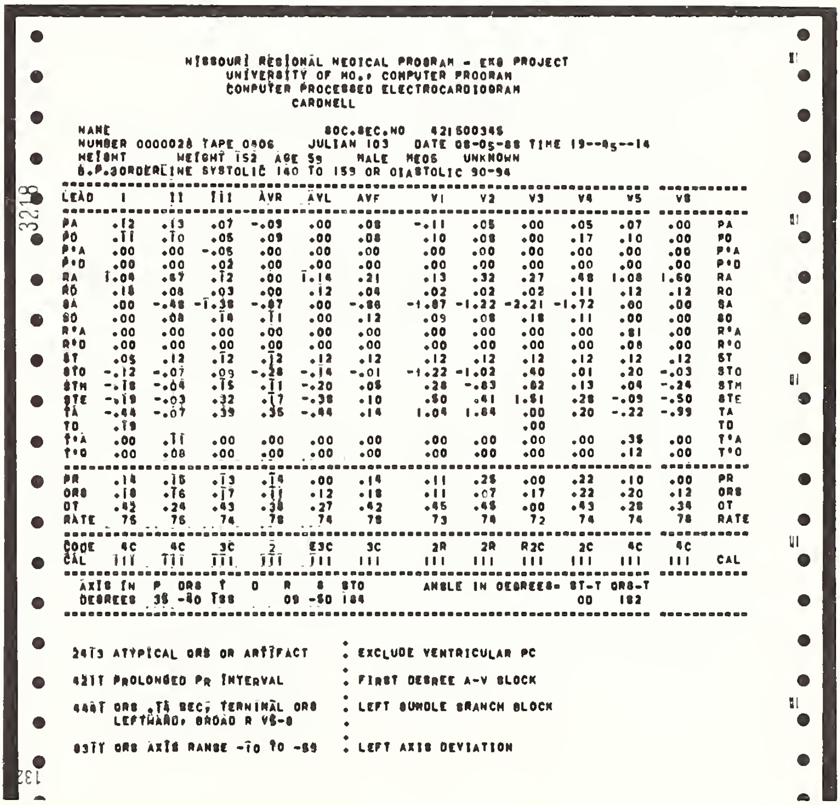


Fig. 1 MRMP automated EKG project system's blockdiagram.



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                 MISSOURI REGIONAL MEDICAL PROGRAM - EKG PROJECT
                      UNIVERSITY OF MO., COMPUTER PROGRAM
                      COMPUTER PROCESSED ELECTROCARDIOGRAM
                                  CARDWELL

   NAME                          SOC.SEC.NO   421500345
   NUMBER 0000028 TAPE 0506    JULIAN 103   DATE 08-05-68 TIME 19--45--14
   WEIGHT       HEIGHT 152  AGE 59     MALE  MEDS   UNKNOWN
   B.P.BORDERLINE SYSTOLIC 140 TO 159 OR DIASTOLIC 90-94
 ----------------------------------------------------------------  -----------
 LEAD    I      II     III    AVR    AVL    AVF       V1     V2     V3     V4     V5     V6
 ----------------------------------------------------------------  -----------
 PA     .12    .13    .07   -.09    .00    .08     -.11    .05    .00    .05    .07    .00    PA
 PD     .11    .10    .05    .09    .00    .08      .10    .08    .00    .17    .10    .00    PD
 P'A    .00    .00   -.05    .00    .00    .00      .00    .00    .00    .00    .00    .00    P'A
 P'D    .00    .00    .02    .00    .00    .00      .00    .00    .00    .00    .00    .00    P'D
 RA    1.04    .67    .12    .00   1.14    .21      .13    .32    .27    .48   1.08   1.60    RA
 RD     .16    .08    .03    .00    .12    .04      .02    .02    .02    .11    .12    .12    RD
 SA     .00   -.48  -1.38   -.87    .00   -.86    -1.07  -1.22  -2.21  -1.72    .00    .00    SA
 SD     .00    .08    .14    .11    .00    .12      .09    .08    .18    .11    .00    .00    SD
 R'A    .00    .00    .00    .00    .00    .00      .00    .00    .00    .00    .81    .00    R'A
 R'D    .00    .00    .00    .00    .00    .00      .00    .00    .00    .00    .08    .00    R'D
 ST     .05    .12    .12    .12    .12    .12      .12    .12    .12    .12    .12    .12    ST
 STO   -.12   -.07    .09   -.28   -.14   -.01    -1.22  -1.02    .40    .01    .20   -.03    STO
 STM   -.18   -.04    .15    .11   -.20    .05      .28   -.83    .02    .13    .04   -.24    STM
 STE   -.19   -.03    .32    .17   -.38    .10      .50    .41   1.51    .28   -.09   -.50    STE
 TA    -.44   -.07    .39    .36   -.44    .14     1.04   1.84    .00    .20   -.22   -.99    TA
 TD     .19                                                      .00                        TD
 T'A    .00    .11    .00    .00    .00    .00      .00    .00    .00    .00    .35    .00    T'A
 T'D    .00    .08    .00    .00    .00    .00      .00    .00    .00    .00    .12    .00    T'D
 ----------------------------------------------------------------  -----------
 PR     .14    .16    .13    .14    .00    .14      .11    .25    .00    .22    .10    .00    PR
 QRS    .18    .16    .17    .11    .12    .18      .11    .07    .17    .22    .20    .12    QRS
 QT     .42    .24    .43    .38    .27    .42      .45    .45    .00    .43    .28    .34    QT
 RATE    76     76     74     78     74     78       73     74     72     74     74     78    RATE
 ----------------------------------------------------------------  -----------
 CODE    4C     4C     3C     2     E3C     3C       2R     2R    R2C     2C     4C     4C
 CAL    111    111    111    111    111    111      111    111    111    111    111    111    CAL
 ----------------------------------------------------------------  -----------
   AXIS IN   P  QRS  T    D    R    S  STO        ANGLE IN DEGREES= ST-T QRS-T
   DEGREES  38 -40 188       09  -50  184                         00   182
 ----------------------------------------------------------------  -----------

                                          .
  2413 ATYPICAL QRS OR ARTIFACT           . EXCLUDE VENTRICULAR PC
                                          .
  4211 PROLONGED PR INTERVAL              . FIRST DEGREE A-V BLOCK
                                          .
  4441 QRS .14 SEC, TERNINAL QRS          . LEFT BUNDLE BRANCH BLOCK
       LEFTWARD, BROAD R V5-6             .
                                          .
  0311 QRS AXIS RANGE -10 TO -89          . LEFT AXIS DEVIATION
```

Fig. 2 Teletyped measurements' matrix and diagnostic statement received in doctor's office.

MYOCARDIAL INFARCTS

Diagnostic Statement	*Criteria*
Poor R progression V leads. Consider old infarct or fibrosis	R $\leqslant$ 0.15 MV both V2 and V3, or either V4 or V5
Atypical Q V2 or V3. Consider old infarct or fibrosis	Q $\geqslant$ 0.07 MV in V2 or V3
Small R2 Leads V2-V5. Possible old infarct—anterior or fibrosis	R $\leqslant$ 0.10 MV in 2 leads V2-V5
Absent R2 leads V2-5. Consistent with old infarct—anterior	R Absent 2 leads V2-5
Small or absent R and negative T 2 leads V2-5. Consistent with age undetermined infarct—anterior	Either of preceding 2 R criteria and T or T′ $\geqslant -0.10$ MV in 2 leads V2-5
Small or absent R and elevated ST 2 leads V2-5. Consistent with acute infarct—anterior	R Wave criteria as above and STO $\geqslant$ 0.15 MV in 3 leads VI-5
	ORS peak to peak must be $\geqslant$ 0.20 MV
Questionable @ 2 leads 1, AVL, V5-6. Possible old infarct—anteriolateral	1) Q at least 0.04S C and ¼ R amplitude 2) Another Q at least 0.03 (OR) ¼ R amplitude 3) QRS peak to peak at least 0.20 MV 2 leads 1, AVL, V5-6

NOTE: $\leqslant$ means equal to or less than; $\geqslant$ means equal to or greater than.

Fig. 3 Examples from the computer program developed by the Medical Systems Development Laboratory of USPHS: Version of Jan. 31, 1968.

munity; and a medical group in a medium-size town. Daily operation has revealed several classes of problems which were largely unexpected by us. Solutions, so far, have been satisfactory. Additional data carts have been ordered and additional medical settings are being examined.

Brief experience with the system so far confirms Caceres' previous claims.[1] Specifically, the system is 100% correct when it classifies a tracing as "normal." It is incorrect less than 15% of the time in its abnormal interpretation. Many (about 5%) of these instances constitute minor and/or insignificant deviations from the interpretation of reference cardiologists.

The simple provision of an electrocardiogram interpretation has so far seemed worthwhile.

In addition, we are creating prerecorded audio messages related directly to the computer interpretations for a "dial up" telephone medical lecture system.[2] We believe this system will partially relieve the absence from the computer/EKG system of true cardiologic consultation. Collaborators in the preparation of the audio lectures include Drs. Allen Bures, Cesar Caceres and Frank Brand.

Comparison With Other Systems

Fig. 4 presents a comparison of salient features of some of the major computer/EKG systems. We have made arrangements for parallel interpretation of selected tracings with other computer systems throughout the next two years in order to be able to recommend the very best system for this region.

Future Plans

We would hope to serve a maximum number of communities. To do this, it may be necessary to reprogram the existing system in order to use more efficient, more modern computers.[3] Alternatively, collaborators may be able to work with us and Doctor Caceres to improve and render the existing system more efficient. Caceres is personally investigating the possibility of production by private industry of small, special purpose computers to be dedicated only to interpretation of the electrocardiogram. If these prove to be sufficiently inexpensive, we may be able to test them in selected communities which would then be totally independent of the Columbia computer center.

Amlinger and Carlson[4] are testing a preprocessing circuit which may be able to reliably classify a tracing as "normal" or "abnormal" without use of an expensive general purpose computer. This would radically reduce the cost of processing and increase the number of communities we could serve.

Engineering collaborators in the Missouri Regional Medical Program are exploring the problem of mass screening data acquisition devices. Cox at Washington University, working independently, has been investigating the use of a special computer for on-line processing of various physiological signals, including the electrocaridogram. This work has focused on the problem of the intensive care facility.

All present systems fail to provide for a large data file to store concisely the results of previous electrocardiographic signals and interpretations. We plan during future years to be able to con-

	PHS-Caceres	*Mayo Clinic/IBM**	*Mt. Sinai Hospital*	*Queens Univ.*
Does MD get 12 lead tracing	Yes	Yes	Yes	Yes
Computer interpretation based upon 12-lead scalar system	Yes	No	Yes	Yes
Computer based on 3-lead vector system	No	Yes	No	Planned
Computers utilized	CDC 8090, or CDC 160A	IBM 1800	(IBM 1401) IBM 360/40	PDP-8 and IBM 360/50
Published medical evaluation	See note 1	See note 2	See note 3	Not yet completed
Data Carts	CIC (Computer Instruments Corporation)	Marquette Electronics	IBM Experimental Data Console	CIC
Telephone connections	Hartford Hosp: Private leased line Missouri: ordinary "dial up"	Private leased line	In-house connections	Undetermined

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* Dr. Robert A. Stratbucker of the University of Nebraska also is utilizing the Mayo/IBM System.

Note 1. Computers, Electrocardiography and Public Health, A report of Recent Studies From the Instrumentation Field Station, Heart Disease Control Program, Div. of Chronic Diseases, U. S. Public Health Service, Dept. of Health, Education and Welfare, Washington, D. C.

Note. 2. Smith, R. E. and Hyde, C. M.: A Computer System for Electrocardiographic Analysis, Third Annual Rocky Mountain Bio-Engineering Symposium, Univ. of Colorado, Boulder, Colorado, May 2-3, 1966.

Note 3. Pordy, M. D. *et al:* Computer Aanalysis of the Electrocardiogram. Journal of the Mount Sinai Hospital, Vol. XXIV, No. 1, January, 1967.

Fig. 4 Features of selected systems for interpretation of electrocardiograms by computer.

tribute this feature and, also (with collaborators), to encode the requisite rules for comparing within the computer new and old tracings from the same patient.

All of these efforts have been based upon "the expert cardiologist" as the reference against which any new system is measured. In the meantime, other groups of mathematicians and biostatisticians are looking toward new techniques with which a computer system could extract from the electrocardiogram information which the human viewer cannot see by present methods of inspection. This is an exciting time. The next five years will see major changes and improvements in electrocardiography.

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3. Lindberg, D. A. B.: Pattern Recognition, Chapter XII, in The Computer and Medical Care. Springfield, Ill.: Charles C Thomas, Publisher, 1968.
4. Amlinger, P. R. and Carlson, A. J.: Proposal to Develop an Electronic EKG Pre-Processing Device. Submitted to MRMP, Dec. 1967.

Bioengineering (Cont'd)

and minimum artefact.

—A rapid portable system of obtaining six EKG leads simultaneously.

As might be expected, serendipity is bound to occur. In the case of bioengineering, we have stumbled onto an electrostatic wave surrounding the human body with up to five times the voltage of an EKG signal. It pulses at the heart rate with its own peculiar wave form. We don't know the origin or method of modulation of the wave, but only that it is there. One suggested use of the phenomenon is monitoring without attachment of gadgetry to patient.

We are prepared to dream and to imagine, but we are prepared through basic knowledge in medicine and engineering to convert dreams and imagination into useful hardware and systems of an advanced nature to provide more accurate, reliable, durable, economical and simple-to-use equipment for patient care.

GLENN O. TURNER, M.D., ***Springfield********
Project Director, MSMP

The Community Approach to Reduction of Cardiovascular Deaths

A preliminary summarization of the unit recommendation of the Project Staff of the MRMP Comprehensive Cardiovascular Care Unit in Springfield as expressed by Doctor Turner in collaboration with Dr. Cecil R. Auner, Associate Director and Dr. John J. McKinsey, Advisory Committee Chairman. The author details the need for and the development of a community-supported Comprehensive Cardiovascular Care Unit with specific reference to his experience in Springfield, where such a unit is well underway under the aegis of MRMP.

WOULD YOU BELIEVE that there is within our grasp a medical advance, the most important in a decade, that could save as many lives per year as were lost each year of World Wars I and II? Corday[1] draws this comparison, even if only half of the 100,000 potential reported by Wakerlin[2] is actually achieved. The means to this end is the application of the Coronary Care Unit Concept in all our hospitals.

Fox[3] reported that 350,000 of the nearly 600,000 who die annually in this country from heart attacks arrive at the hospital alive (250,000 die without benefit of hospitalization). The Coronary Care Unit can reduce the inhospital death rate from approximately 30% to about 20%, resulting in the saving of roughly one third of the 350,000 who are still alive upon arrival. Using these figures, Corday's estimate of a possible 50,000 lives saved per year is, indeed, modest.

Fox reports that, as of June, 1967, only 300 of the nation's 7,000 hospitals had coronary care units in operation. Even doubling or tripling this number of units during the past year would have left more than 6,000 hospitals without such modernized service. Extending this improved care into these remaining hospitals presents the greatest challenge the American health team has yet faced.

Preservation of future earnings of this one third of heart attack admissions who were saved justifies a major community expenditure in improving coronary care. Add to this the potential lifesaving from bringing about, by earlier recognition of and attention to warning signs, hospital admission of some of the 250,000 who now die each year at home or at work, and one is even more impressed. Heart damage and deaths in those admitted also can be reduced by earlier entry of all coronary patients. Additionally, applying intensive treatment methods to other high risk cardiovascular patients will swell the total of lives saved. Ultimately, actual prevention of heart disease through attention to 'Risk Factors" is now foreseeable.

The Project Staff of the Ozarks Regional Comprehensive Cardiovascular Care Unit in Springfield is undertaking these objectives on a regional basis under a grant from Missouri Regional Medical Program. Incomplete, capsulized results of the first year of this study are as follows:

1. *Promptness of recognition and hospital admission* of heart attack suspects is the prime consideration. In the Ozarks an initial effort to teach the people the early warning signs by the Greene County Division of the Missouri Heart Association by mass media communications led to a proposal for a pilot public information program under Missouri Regional Medical Program. Such a program also should stimulate physicians to respond more promptly and more definitively to early heart attack manifestations. Pain in the substernal region, back, jaws, arms or combinations of these areas and otherwise unexplained dyspnea or sweating frequently can be interpreted accurately enough by telephone to justify immediate admission as a heart attack suspect and, often, to permit by-passing outpatient facilities. Systems of more rapid ambulance transport of patients with emergency care capability en route should be developed.

2. *Bed needs for the establishment* of a cardiovascular care unit can be determined most simply by a patient count and classification of the entire hospital population. This can be done

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* Doctor Turner is in the private practice of medicine.

by one physician in less than a day and can be repeated on other days by other physicians for confirmation. The Springfield group feels that all high risk cardiovascular patients should be tallied for probable inclusion in a specially staffed and equipped cardiovascular division. These include proved or suspected acute myocardial ischemia and infarction, congestive failure, arrhythmias, pulmonary embolism, thrombophlebitis, hypertension, cardiacs with other medical and possibly surgical problems and, perhaps, acute strokes. Pulmonary insufficiency also deserves similar care. Not only can this grouping reduce the number of emergencies that arise, but resuscitation efforts also can be enhanced by doing away with the "galloping exercise that ends in failure." In February, 1965, the initial such count in St. John's Hospital showed 75 of the total 450 patients to be in such a high risk cardiovascular category. This one count alone led to the restriction of an entire 40 bed hall, by rigid admitting policy, to these patients. Validity of the count was immediately shown by the inadequacy of this number of beds in meeting the needs as reflected by requests of staff physicians for admission of their patients to this newly-created division. This count (Fig. 1) can be carried out in any hospital with the anticipation that roughly 10% to 25% could be classified as benefitting from grouped, specialized care.

3. *A progressive care system with three zones,* acute, intermediate and convalescent should be provided in one common area. The acute zone should include intensive and "observation" beds. The ratio of beds needed in these areas can be determined from the patient tally. Underestimation of needs as utilization increases was one of the most common deficiencies noted elsewhere by Springfield teams.

4. *A cardiovascular hall or division,* including an intensive unit, can be established in almost any hospital to accommodate these patients, once bed requirements are ascertained. Existing construction usually can be used. One device for provision of intensive care is to knock out portions of walls between rooms and to install a door and large windows extending down to or below bed level to give easy access and full visibility.

5. *Subdivision of the intensive care unit* into "quiet" and "noisy" areas will permit reception

CARDIOVASCULAR DISEASE CENSUS, ST. JOHN'S HOSPITAL, BY DIVISION

FEBRUARY 5, 1965

	4N	INT	5W	4W	3W	2W	GW	4E	3E	2E	PIUS	TOTAL
1. Acute Myocardial Infarction and/or ischemia	6	1	2	1		3	4		1	2	1	21
2. Chronic Coronary Disease	3						1				2	6
3. Congestive Failure	2		1	1		1	1		3	1	1	11
4. Stroke	3		3				1	1				8
5. Seizures, miscellaneous			1	2				1				4
6. Chronic Cor Pulmonale	1			1			1					3
7. Pulmonary Embolism												
a) Complicating leg fracture				3								
b) Complicating abdominal surgery	1											
c) Complicating Phlebitis, without surgery									2			
Total Pulmonary Emboli												6
8. Arrhythmias, acute				1						1		2
9. Arrhythmias, chronic				1								1
10. Hypertension				1								1
11. Congenital Heart Disease								1				1
12. Acute Rheumatic Fever								3				3
13. Pericarditis	1											1
14. Bleeding Esophageal Varices	1											1
15. Ruptured CNS Aneurism		1										1
16. Chronic Coronary Disease, in for Surgery			1				1			1	2	5
Total	18	2	8	11	0	4	9	6	6	5	6	75

Fig. 1 Patient Survey. This rough tabulation of high risk cardiovascular patients in St. John's Hospital on Feb. 5, 1965, led to establishment of pilot 40-bed comprehensive cardiovascular care unit.

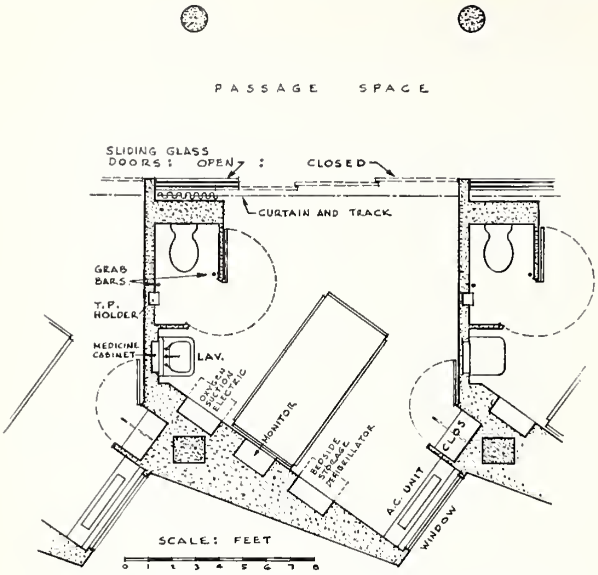

Fig. 2 Model Room Floor Plan. Floor plan of "saw-tooth" design of one of 14 rooms in round unit for observation of less complicated acute patients (six-bed intensive unit is separate).

of patients of varied requirements. This arrangement also lends itself to a combination with general medical-surgical I.C.U. Staffing problems will be less with this comprehensive grouping than with permitting these zones to be scattered throughout the hospital. Nurse instruction is simplified and there is better back-up for any overloaded component. Patients can be shifted within the division with ease as they improve or worsen.

In new construction, one can incorporate into the "observation" or uncomplicated acute care area the following desirable features (Figs. 2 and 3):

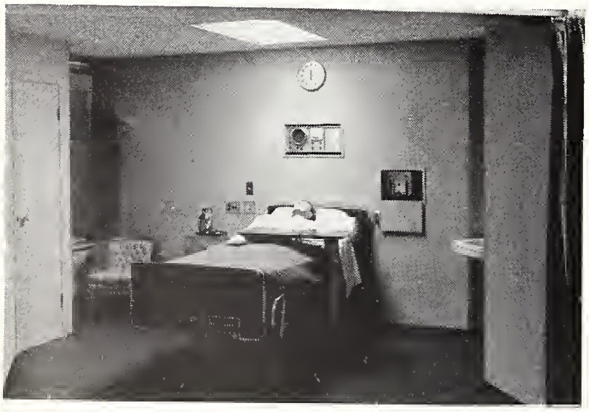

Fig. 3 Model Room. Photo of room represented by floor plan sketch in Fig. 2. Over-the-bed auto-headlight-type, recessed reading light and oxygen-and-suction outlets have not been installed.

a. Direct visual surveillance, in addition to electronic.
b. Recessing of gruesome monitors and other gear.
c. Outside windows with low sills.
d. Bathrooms, which do away with that monstrosity, the commode. A couple of steps into the bathroom is surely less stressful than the commode or bedpan.
e. Carpeting and acoustical ceilings for noise control.
f. Power drape operation—cost is about $70 per room.
g. An abundance of electrical outlets, includind at least one 220 volt line.

6. *Bedside defibrillator provision for each patient is ideal.* Saving the life or brain function of just one wage earner by this means of cutting off that precious fraction of a minute would pay for numerous defibrillators.

7. *The following ancillary services* ideally should be in or near the cardiovascular division:

a. Department of electrocardiography, bearing in mind possible later application of central recording and of computerization.
b. Inhalation therapy department.
c. Cardiopulmonary laboratory, including blood gas analysis, where feasible.
d. Procedure room for cardioversion and pacemaker placement.
e. Exercise tolerance evaluation.

8. *Radiographic service should be intensified.* The Springfield group agrees with Meltzer[4] that congestive failure, the second most death-dealing complication of acute myocardial infarction, can be treated more effectively if recognized earlier through frequent chest x-raying. Furthermore, even low output portable equipment can be successfully used by well-trained technicians to obtain six foot sitting PA films for determination of heart size and pulmonary vascularity (Fig. 4). Radiologists are urged to routinely record heart size on films and reports in cardiac roentgenography. A difference of one cm. or less may be significant on serial study. Also, there should be a greater index of suspicion in looking for early increases in vascularity.

9. *Telephone EKG transmission,* preferably utilizing bedside magnetic tape recording which permits sending a number of tracings with one phone call, will give same-day reporting and will eliminate one of the most serious deficiencies in hospitals without an electrocardiographer.

10. *Radio telemetry will expand EKG surveil-*

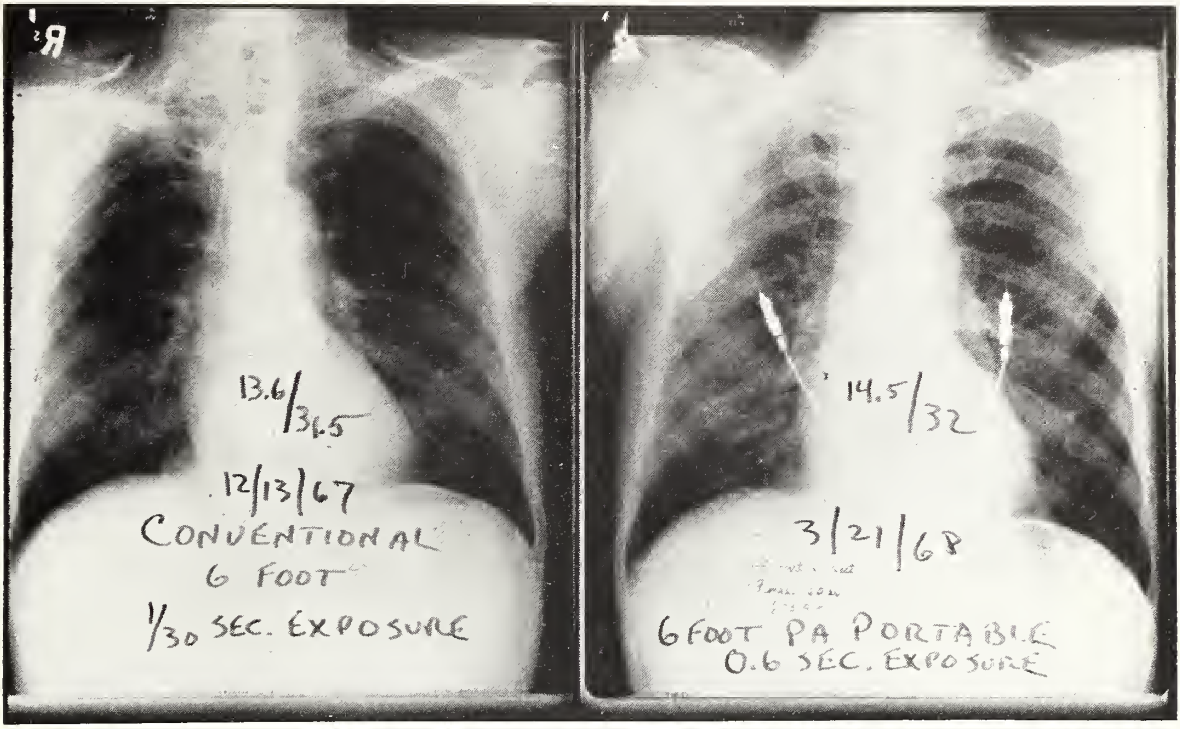

Fig. 4 X-Ray Photo. Comparison of conventional versus ICU portable techniques to show significant alteration in heart size and pulmonary vascularity (latter is more obvious on original films). Monitor needle electrodes are in place.

lance into intermediate and convalescent zones. Length of stay in the acute care zone can be diminished, perhaps, by this means.

11. *Financing of instrumentation* and possibly meeting other costs should be actively sought through civic groups, particularly hospital ladies' auxiliaries. This can reduce daily rates by several dollars.

12. *Nursing staff, relatives' lounges* and teaching and conference rooms should be better planned.

13. *LPN and nurse aide utilization* can be very effective in cardiovascular care units, including reading monitor scopes. In addition to holding costs down, they permit expansion of services into the areas of RN shortage.

14. *Defibrillation by nurses* is mandatory for maximum service to the patient. Not providing this capability may soon be legally indefensible.

Specialized cardiovascular training for nurses must be expanded. Under Missouri Regional Medical Program and other interested groups and agencies, an early objective should be the provision of training facilities to enable each hospital in the Missouri Region to have one or more such specially trained nurses. These nurses, under continued guidance of nursing instructors and with time for travel to community hospitals, can organize local teaching programs. Instituting this system of consultation in Missouri is the ambition of the Springfield group. These nurses are the key to the entire program and must be given special recognition and encouragement. Physicians will find that they can learn a great deal in the specifics of cardiovascular unit operation from them and also will be stimulated in their own study.

15. *Physician education* will accelerate as the potential and mechanics of the entire program are made more clear. Workshops and conferences designed for the community hospital, ideally cosponsored by Regional Medical Programs and the Heart Association, will best accomplish this goal. The Springfield MRMP Project Staff and the Missouri Heart Association are now planning such a workshop for October, 1968 to be offered statewide.

16. *Hospital administrator and governing board participation* in unit development is an obvious necessity. The latter serves as representation of the taxpayer and of the purchaser and consumer of health services.

17. *Alliance with health agencies,* both gov-

(Continued on page 753)

HENRY M. HARDWICKE, M.D., ***Columbia****
Project Director, MRMP

The Smithville Project

An Evaluation

The Smithville Project of the Missouri Regional Medical Program attempts to measure the assumption that if comprehensive care were made available to the people of a given medical service area, the people of this area would (a) profit from the extended medical knowledge available to them, (b) demonstrate acceptance of comprehensive medical care which would be meaningful in their lives, (c) exhibit less ambivalence in cooperating with the physicians' directives, (d) develop an innate motivation toward increasing their own productivity and lowering their own morbidity and, in addition, that (e) the comprehensive care, having been made available to a medical service area, will inculcate within the consumers of this care the type of discipline which makes the care most effective.

The Smithville Project also set out to measure the degree to which physicians in practice within the given medical service area would avail themselves of the totality of comprehensive care. It also attempted to measure the extent to which physicians, given an appropriate time for learning and for familiarization with comprehensive care, would accept it as a way of medical practice.

The purpose of the Smithville Project was, therefore, to determine and to focus upon those inadequacies of current practice of which the physicians were aware. Once these inadequacies had been determined, the purpose was to supply the equipment and the necessary backup personnel so that inadequacies would no longer exist. The aim of the Smithville Project was, consequently, to shorten in one dimension, namely, time, the progress which physicians in the area were currently making toward providing their patients with a total kind of care to which they were receptive.

It is important to point out that the Smithville Project did not set out to provide comprehensive care to a community. It did not set out to direct the doctors in the manner in which they were to provide medical care to their patients, nor did it set out primarily to lower morbidity or mortality or absenteeism within the medical service area chosen.

The Smithville Project *did* set out to prove what we believe to be a valid assumption—if physicians were given the equipment and the backup personnel which, for financial reasons, they currently did not have available but which they felt were needed, these same physicians would proceed to give the very best quality medical care that they were capable of giving in the most comprehensive manner that their patients would accept.

Selection of the Medical Service Area

Smithville appeared to be ideally structured for conducting research of this type. The Smithville Hospital, an economically self-sufficient unit serving approximately 75,000 people and staffed with some 38 doctors, was currently providing the best medical care that equipment, training and time permitted.

Smithville, as a medical service area, also was unique in that Dr. Arch E. Spelman had founded the hospital, had developed a clinic adjacent to it and had acted as Medical Director of the Hospital and the Clinic without being so named. His personality was dynamic, his knowledge of medicine tremendous, his interest in people unending. For many years prior to the initiation of the Smithville Project, Doctor Spelman had been interested in studying the complexities of a patient's illness. He was acutely aware of the role that environment, economics and emotional stability played in the well-being of his patients. He also was aware of and had studied rather intensely the effects that sudden illness had upon the stability of an entire family. He, in short, had developed the habit of practicing medicine in depth. His work and his records will prove of

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* Doctor Hardwicke is Assistant Professor of Physical Medicine and Rehabilitation at the University of Missouri School of Medicine.

This evaluation of progress made during the first year at the MRMP project in Smithville includes a review of the basis for selecting this medical service area, the initiation of the project and the implementation of the program. The author emphasizes that the MRMP is not attempting to change the practice of medicine in Smithville. The goal is to establish a model which, having been developed by the physicans practicing in that community, may be utilized with effectiveness in other interested areas.

great value when the final story of the Smithville Project is written.

Smithville is a "ruralpolitan" area. The medical service area contains both well-established agrarian families whose roots are deep in the soil and whose mores and traditions are strong and a large number of suburbanites who had moved into the Smithville medical service area from Kansas City where they still maintain employment. This area, therefore, offered an interesting cross-section of the American scene. The interplay of social forces are inevitable under these circumstances.

INITIATION OF THE PROJECT

The scope and intent of the Smithville Project were presented to the Board of Directors of the Smithville Community Hospital at their regular monthly meeting in February, 1967. After a perceptive discussion of the proposed project by the Board, it voted unanimously to submit the Project to the staff for its approval. The Board further voted that if the staff approved the Project, the Board would endorse and support the Project.

Two meetings were arranged with the active staff. The first took place within the first week of March, 1967. The meeting, interestingly, was held at a hotel in Kansas City, the place of the meeting being established by the active staff.

At the first meeting with the staff, the Project was presented for their comments and consideration. This meeting was devoted, for the most part, to a discussion by the staff of their deep feelings concerning federal funds being brought into the practice of medicine. It could well have been classified as a psychotherapeutic group meeting. It was our feeling that a great deal was achieved since the foundations for an honest exchange of views were well laid. It was evident, however, at the end of the meeting that a second meeting to discuss the Project itself would be in order.

A second meeting was held with the active members of the staff in the latter part of March. With some expressed reservations, the staff at this time agreed to participate to the extent that they felt their patients would benefit from the Project. Their reservations all related to the fact that they anticipated that once they had succumbed and become part of the Project, representatives of the federal government would then move in and begin to dictate in what fashion they should practice medicine. They were assured that this would never happen. They also were reminded at this second meeting that the Project was self-limited; that at the end of two and half years all financial support for personnel or additional equipment would be withdrawn; and that equipment purchased for the Smithville Hospital, which had been used sufficiently to justify its continued existence, would be left there. At the end of the second meeting, the staff voted to recommend to the Board that it accept the Smithville Project.

IMPLEMENTATION OF THE PROGRAM

Implementation of the Smithville Project has been extremely difficult. Personnel had to be found in all areas that were lacking within the Smithville medical community. Research-oriented individuals were needed to implement the repeated necessary surveys of the community. These surveys were designed to continually test, on a random sampling basis, the people's attitudes about medicine, their willingness to utilize the medical resources of their community, their mores or traditions that might interfere with their appropriate utilization of medical science. As time went on, surveys would remeasure these same things so that changes for the better or for the worse might be recorded.

Personnel had to be found who would offer expert services in the fields of physical therapy, medical social work, home care nursing, rehabilitation nursing and intensive coronary care nursing. From a purely professional level, resources which were not then present in Smithville had to be recruited in the fields of psychiatry, internal medicine and physical medicine.

It also was necessary to set up administrative devices which made it possible to cost-count the operation of the extended care facility which was to be developed within the existing hospital, of any home care program which was to be started, and of all other programs to be initiated for the physicians in their use of the extended care program.

Slowly, but steadily, administrative mechanisms were developed and personnel were recruited in the several areas. It was impossible to recruit trained intensive coronary care nurses, so it was necessary to recruit nurses who would be willing to leave for training at recognized training centers. Professional personnel are difficult to recruit at best. When they are recruited under special conditions and at salaries usually lower than those paid by hospitals less than 15 miles away, recruiting becomes extremely difficult.

It was possible by June 1 to maintain in the hospital 15 beds which were devoted to extended care. It was possible to recruit and train a rehabilitation head nurse who was responsible for the training of aides and other nurses on her ward. It also was possible to recruit a physical therapist who was registered and had had experience in professional physical therapy. After great difficulty, the services of two well qualified internists and two physiatrists were made available to the group at Smithville.

Things were moving ahead in accordance with schedule.

Suddenly, on Oct. 7, 1967, Dr. Arch Spelman, the prime mover of the program, the prime supporter of comprehensive care in the Smithville area and the founder, builder and developer of the program, died of a coronary. An immediate hiatus of no small magnitude ensued. The staff was disoriented and without leadership; the administrator found himself somewhat inadequate to the many tasks that fell upon him. The members of the University of Missouri Medical Center faculty, who were assigned to Smithville to assist, felt it incumbent upon them to remain aloof from the organizational problems that existed. Any direct participation by members of the team from the University of Missouri probably would have delayed the final resolution of these problems and might well have placed a bias upon the whole study which could not have been tolerated. There actually ensued a period of approximately four to five months in which no real concentrated work was done on the program by the members of the active staff of the Hospital. All the related work was done indirectly by representatives from the Missouri Regional Medical Program. Their task was to maintain as much cohesion and progress as possible under the circumstances.

This was an unexpected complication which, in the long run, probably will move the entire project to quicker consummation than otherwise could have been achieved.

The staff has learned to relate to each other since the death of Dr. Spelman six months ago. Interestingly, the quality of care has not deteriorated, the patient load in the hospital has not decreased and the attention which physicians pay to their patients and their dedication to their patients' welfare has not been altered.

A new staff organization has begun to emerge, the strong have begun to take leadership, the pieces of the puzzle have begun to fall into place and the Smithville Project has begun to move ahead. A new administrator is being actively sought by the Board of Directors. Cost accounting systems which are meaningful are being inaugurated. The management of the Hospital is beginning to assume more definite shape and pattern.

A new extended care pavilion containing 50 beds and a large rehabilitation and occupational therapy area is under construction. Plans already are on the drafting board for a 250-bed acute hospital which will serve as an addition to the present hospital. The nursing home, which was partly finished when the Project began, will now be finished; funds have been raised for its completion. Plans have been altered so that the home will be more usable than its original design would have permitted. It now appears that the Smithville hospital will begin to assume its proper responsibility for the personnel provided by the Regional Medical Program. Six months later than anticipated, the pattern is reassumed and the program continues.

There has been a growing acceptance by local physicians of the role that intensive coronary care facilities and rehabilitation and extended care can play in the lives of their patients. An increasing number of physicians are not only admitting patients to both services, but are supervising their medical care after they are admitted. Consultation is requested only when the physicians feel they honestly need it and not as a matter of routine. The home care program is growing quite rapidly and very satisfactorily. There is evidence now that each of these programs will be self-supporting in the near future. It is probably true that the one aspect of the program that offers the greatest difficulty from a financial point of view is the intensive coronary care unit. It is the most expensive to operate, the one least frequently covered by third party carriers, and the one which those who do not have insurance are least able to afford.

It would appear that the research unit has done its work quite well. An original survey representative of the entire 75,000 people in the medical service area has been completed. The second survey is now underway to measure, if possible, any change in attitude on the part of the recipients of medical care in the area during the past year. Physicians on the staff are now planning actively to become part of a lay educational program and to conduct lay educational meetings.

PARTICIPATION OF HEALTH AGENCIES

Concentrated efforts have been made to utilize the public health department and voluntary health agencies located within the medical service area. Efforts to inform these groups will be continued as opportunity permits.

EVALUATION

It is hoped that by the end of 1968 it will be possible to institute a retrospective study of those patients who have come under the influence of the extended comprehensive program offered through the Missouri Regional Medical Program conducted by the physicians in practice, and to compare this progress with patients who have not come under the same influences. By the end of 1968, there should be a sufficient number of people in both categories to make such a study meaningful.

Within the next six months, it is hoped that the home care program will prove self-sufficient both economically and from the service point of view. It also is hoped that the intensive coronary care unit will prove to be self-supporting during this same period of time. The balance of the programs appear to be moving in this direction quite rapidly.

SUMMARY

In spite of unexpected difficulties, unexpected sorrows and the expected antipathy and distrust of the practicing physicians toward any program connected to possible federal control, the Smithville Program has moved along in satisfactory fashion. A great deal of work has gone into the Program, both by people interested locally and by those representing the Missouri Regional Medical Program. This work seems to be well justified at this time. We are hopeful that the outcome will be especially rewarding to the recipients of medical care in the Smithville area.

Community Approach (Cont'd)

ernmental and volunteer, provides broadly based support and vast resources of skill and experience. There should be better utilization of USPHS systems development. Partnership with the Heart Association is a key factor.

18. *Local medical society approval* can provide cooperation of all physicians in the community extending beyond any one hospital staff.

19. *News media involvement,* through sharing of plans and objectives from the outset, will probably assure unprecedented public interest and support, as exemplified in Springfield.

20. *Limitations of units* will vary with the hospitals and must be stressed. If full professional and hardware capability is not at hand, prompt referral or consultation when needed is obligatory. This particularly applies to pacing catheter placement, to management of serious arrhythmias, unresponsive congestive failure and intractable pain and to uncertainty of diagnosis.

SUMMARY

The Missouri Regional Medical Program has provided in the Ozarks the best mechanism yet available to meet the greatest health challenge ever faced here by creating a forum for assembling a vast array of people and resources to bring about a reduction in cardiovascular death and disability.

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WILLIAM STEPHENSON, Ph.D., ***Columbia****
Project Director, MRMP

Communication Research

By "pre-testing" the impact of health pamphlets, posters, brochures, films and radio-TV spots being developed, the Communication Research Unit of MRMP is able to improve their effectiveness before general distribution to the public. Doctor Stephenson shows how "pre-testing" and "facilitators" applied to medical publications on preventive health measures result in "changing behavior directly" and facilitating desired action and response.

THE COMMUNICATION RESEARCH UNIT (CRU) has as its objective the development of communication which serves not merely to inform, but to bring about immediate change. Its concepts are communication-facilitation, communication-action and the like; its affinities are with advertising and public relations programming rather than with education and information dissemination.

First, CRU has devised methods for "copy-testing" news releases, pamphlets, radio and television spots, posters, documentary films and movies and any or all of the materials produced for public consumption. It is important to be able to do this because few, if any, of these materials are "pre-tested" today. Costly films are produced and pamphlets published without prior copy-testing to find out how far people identify with them. The result is that many are doing more harm than good. One pamphlet on cancer, for example, is calculated to alarm women and not at all to assuage their anxieties about cancer.

Copy-testing shows that women react highly negatively to this kind of leaflet, in spite of the happy-looking graphics. It is not merely that they dislike having their attention drawn to the grave consequences of leukemia. What disturbs the women is the triteness of the treatment—the scrappy bit of paper for so grave a matter is totally out of place. As one woman said, "It's like printing the Bible in a comic book." Serious topics, somehow, have an intrinsic "demand" character of their own, and this throw-away bit of paper in no way satisfies it. Many examples of this kind could be given in which good intentions, fine photography and expensive films make serious communication mistakes which could have been obviated by prior copy-testing.

Second, CRU adds to pre-tested materials certain "facilitators" which aim at changing behavior not by "persuasion," "education" or "injunction" (Stop Smoking!), but in some sense directly.

The best analogy here is "programmed learning" by which materials can be learned very effectively when each step in the learning is "rewarded." Children will learn very effectively and happily if they are paid to do it. Poor women will readily look at a television program on birth control if paid to do so. Mass advertising for consumer goods wouldn't be successful without the facilitation of supermarkets where housewives who are shopping can see again the items they saw on television and, thus, be reminded to act. Each of us, upon hearing some news about which we feel strongly, may intend to write to the editor or to one's congressman, but how often do we do so? CRU sets out to facilitate action. Given pre-tested materials, how does one cause people to act?

An example of CRU at work in this matter is seen in connection with the Smithville Project of MRMP. Can women be persuaded to examine themselves regularly for early signs of breast cancer?

CRU studies show that women are worried about cancer. As one physician has said, "There are two major diseases today, cancer and worry about cancer." How, then, assuage the anxiety and, at the same time, get women to examine themselves? First, cancer experts devised the self-examination procedures. Next, CRU undertook some outstanding photography to illustrate the self-examination by using a beautiful model with restrained, dignified poses (Fig. 1). An expensive-looking pamphlet was then written and designed by a creative advertising expert whose work had won many awards for excellence nationally and at the 12th Festival International

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* Doctor Stephenson is a Distinguished Research Professor of Journalism at the University of Missouri.

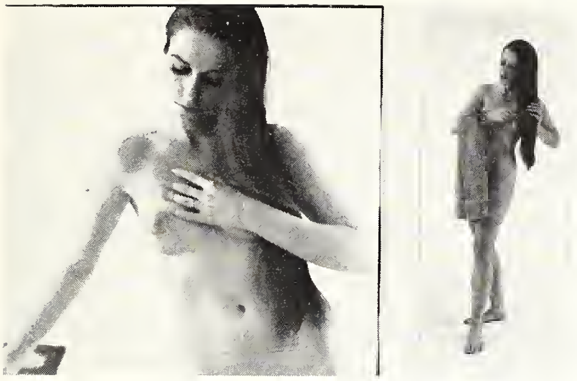


Fig. 1 This model was used for the many photographs required for the pamphlet. Note the restrained, quiet dignity.

du Film Publicitaire in Cannes (1965). All of this material is copy-tested. Men like looking at it as much as their wives. Finally, comes the facilitator. The responsibility for putting the pamphlet into the hands of women in Smithville rests, of course, with their physicians. Once it is in the homes, however, will the women undertake the monthly examination following menstruation as advised in the pamphlet? How can this be facilitated? CRU hit upon the idea of asking the women to hang the pamphlet in the bathroom, just as cookbooks are kept in kitchens. So, this medical booklet has to find a place in a bathroom. People read there. The booklet is expensive-looking and worth keeping; it is provided with a silk loop so that it can be hung from a hook. A newspaper campaign is used to impress upon women the idea of keeping the booklet (and other MRMP "do it yourself" booklets) hanging near a seat in the bathroom. Such is a facilitator.

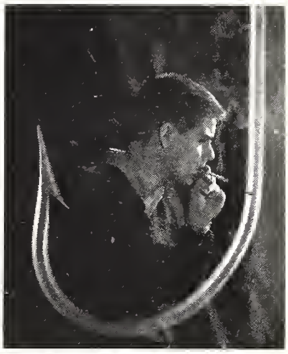
It is scarcely necessary to add that husbands act as facilitators, too, in the above case. Put a copy of *Playboy* in a man's hands and his interest in breasts is obvious. The pamphlet on "How to Make a Self-Examination" interests men as well as women, and husbands influence their wives in the matter of regular self-examination. The beauty, the elegance of the production is anxiety-reducing—a matter CRU puts to test.

Consider cigarette smoking. Everybody knows that lung cancer and cigarette smoking are linked. Smokers, however, meet the situation with reactive indifference. How, then, can we change their behavior?

Current advertising campaigns by the American Cancer Society stress the risks run by smokers and call on smokers to stop smoking. CRU offers no such categorical injunction. Following basic principles, CRU doesn't seek to persuade, enjoin or inform anyone (although these benefits may occur incidentally). Instead, the object is to change behavior directly.

Again, resort has been made to a pamphlet written from the standpoint of a "do-it-yourself" kit. It doesn't tell anyone to stop smoking. It merely says that if you want to quit smoking, there is a scientific way to do it by "switching" the smoking habit for another habit. The method is based upon a modern learning theory (reinforcement of a low probability habit by a high probability habit). If you want to switch "chewing gum" for "smoking," the trick is to reinforce the one at the expense of the other. Thus, the reader finds that the next time he wants to smoke, he "chews gum" for five minutes and then has a smoke. The latter begins to reinforce the former. Soon he finds himself enjoying the gum, and forgetting the smoking. It sounds like expecting a snake to eat itself tail-end inwards, but it works. Again, the pamphlet on "How to Cope With Cigarette Smoking" (Fig. 2), is expertly produced. It tells no one not to smoke. CRU tests how far behavior is changed this way. The attitudes, no doubt, change *pari passu*.

Fig. 2 This poster, through graphics alone, alerts high school students to the dangers of smoking. The above-mentioned folder explains how they may then handle their smoking problem. They will find copies in the school library.



It should be clear, then, that CRU is directed to changing behavior by communication, and not simply to communicating information to people. Where information is involved, it is incidental to the main purpose. In particular, it is nowhere assumed that "educating" or informing people leads *ipso facto* to desired actions, nor is it anywhere assumed that messages themselves may be "persuasive" and that they induce behavior on that account. Instead, action requires action. This is the basis of CRU's work.

Is it not interesting that where matters of opinion arise, CRU may have a place? This follows from the body of theory at issue.[1-3] When one thinks of theory in the communication fields, one thinks of it in relation to information science (such as enters into library science, cybernetics and computerized networks generally) and to mass communication, interpersonal communication and organizational networks and so on. There can be little doubt, however, that what is common to these areas, upon which so much effort is being expended in the applied sciences today, is *information theory* in the Shannon and Weaver sense.[4] The concern is with signal transmission expressed as entropy, redundancy, networks, noise, coupling, channel capacity and the like. From this standpoint a regional medical program is a network involving the lay public, hospitals, general practitioners and MRMP research and development projects. One would study, from this standpoint, which parts of the network have the greatest information input, output and couplings. One might inquire about channel capacities. If information is fed to the public at increasing rates and volume, is there a maximum capacity for its absorption? What of the couplings between lay public and practitioners, public and MRMP and practitioners and MRMP? Who channels what information in these couplings? What is the fidelity of the messages they receive? What distortions occur? Who passes on what to whom? How repetitious (redundant) do messages have to be in order to communicate? Is terse and simple writing the best for information flow? These and similar questions illustrate very well to what information theory leads. The questions, no doubt, are all important ones requiring answers by scientific means. The concern, however, is with information and the afore-mentioned flow, couplings, networks, redundancy, entropy, channels and the like. All enter, no doubt, into mass, interpersonal and organizational communication, but none leads to action as such. Indeed, there is an assumption in information theory that motivation is either nonexistent or of maximum and constant impact upon the systems under consideration. CRU can accept no such assumption. On the contrary, it sets out to study these motivations in the form of operant behavior, first as attitudes (whether before or after events) and, then, as changed behavior. This in no way denies importance to information theory. We use it in CRU whenever necessary to get at facts.

At first, perhaps, it is a little difficult to grasp what operant communication (which is CRU's principle concern) really is. However, examples can help. Consider, for example, how CRU might enter into multiphasic testing. Where does opinion enter here? No doubt, there may be differences of opinion among biomedical researchers about this or that in the multiphasic test battery. Ordinarily, this would not become a problem for CRU unless these scientific differences took on considerable, almost ideological proportions. Or if automated multiphasic testing can drastically reduce costs for tests in general hospitals, there might be differences of opinion regarding the desirability of instituting these reductions, at least until hospitals have found a way to recoup themselves for loss of income that this more efficient testing would occasion. Again, it is unlikely that CRU would find much of a problem here that wouldn't be solved more easily in other ways. What of the public's body of opinion about such testing, such as attends the Kaiser Foundation Health Plan in California, compared with the wider medical profession's standpoint? It is here that CRU can find its problems.

One could illustrate the matter for every project of every regional medical program. Enough has been said, it is hoped, to introduce the purpose of CRU. Nothing has been said about the technical resources it has at its command, such as in depth-type interviewing, Q-sorting, "copy-testing" pamphlets, television spots, posters and in programmed factor analysis and the like. Its staff are journalists with behavioral-science (as well as information theory) perspectives and includes Communications Director, William Stephenson, Ph.D.; Associate Director, Normand DuBeau; Associate, Donald J. Brenner, Ph.D.; Technical Consultant, Terrill Rees, Jr.; Administrative Assistant, Elvera Scroggs; and Research Assistants, Cathryn Buesseler, Richard Carlson, Thomas Drese, Robert Dunham, William Ingenthron, Leah Krawetz and Arlene Stewart.

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CHESTER G. STARR, *Columbia*[*]
Project Director, MRMP

Manual of Medical and Paramedical Services in Missouri

A description of *The Manual of Medical and Paramedical Services in Missouri* which consists of two volumes and was developed by MRMP in response to the demand for a statewide directory of various health facilities and personnel in Missouri. The first volume offers a county-by-county breakdown of all health facilities and services. The second is a supplementary report on all aspects of employment and training of health manpower in Missouri. The author discusses distribution of the books and invites interested persons to send for copies.

For a number of years in Missouri, a demand for a statewide directory or manual of the various health facilities and personnel has been expressed at meetings and conferences of physicians, nurses, hospitals, nursing home staffs and public health, welfare and voluntary health organization personnel. The Health and Welfare Council of Greater St. Louis and the Regional Health and Welfare Council of Kansas City have published directories for their areas. Also, numerous voluntary health associations have published special booklets and brochures on the specific diseases in which they are interested.

At the inception of planning for the Missouri Regional Medical Program, the Missouri Health Council, a federation of some 35 statewide and regional health organizations, presented a project to collect and arrange information concerning the entire state and to make this information available through publication. The project was approved by the National Advisory Council for MRMP and the Missouri Health Council assumed responsibility for its implementation.

As the project progressed, it appeared that two publications would be more useful. As a result, one was developed on facilities and services and the other on the health manpower situation in Missouri.

THE MANUAL

This publication is a book consisting of more than 400 pages with particular emphasis on the health facilities and services available in every county in Missouri. They include hospitals, nursing homes, medical laboratories, clinics, treatment centers, pharmacies, public health services, permanent local offices of voluntary health associations and societies, field representatives of various health organizations and local clubs or groups that furnish some type of medical or paramedical service.

The official health agencies of the Division of Health, Division of Welfare, Division of Mental Diseases, Vocational Rehabilitation of the Department of Education and the State Crippled Children's Service are described in regard to functions, district or area territories, hospitals, treatment centers, clinics and other health services. The principal professional health organizations are listed with location, permanent branch offices, officers, membership and other pertinent information. The voluntary health organizations are included with location of principal and branch offices, field representatives, executive directors and the services offered.

HEALTH MANPOWER IN MISSOURI

The supplementary report on health manpower in Missouri is a much smaller publication of approximately 60 pages. Current employment or practice of the various principal health professions, current needs in the various disciplines, the number of specialists in medicine, dentistry and nursing, salary ranges and schools for education and training are presented on a statewide basis and, also, for each county in the state. The counties are represented in a series of charts that are self-explanatory. Each discipline is described and schools are listed with location, admission requirements, length of study, costs and degrees given. Twenty-two health disciplines are represented in the book.

The Health Manpower in Missouri Report is especially adapted for use by the disciplines in recruiting young persons for health careers.

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[*] Mr. Starr is Secretary of the Missouri Health Council.

Distribution

The circulation of the two books will reach personnel of the Division of Health, Division of Welfare and Division of Mental Diseases. The voluntary health organizations plan distribution to their county and area districts. The Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons plan to distribute copies to all of their county and district societies and organizations. The Missouri Dental Association is placing copies in each of its area districts. Many hospitals and nursing homes have requested copies also.

Any person who is interested in the information contained in the books may secure copies from the Missouri Regional Medical Program, Lewis Hall, Columbia, Mo. 65201

National Manpower Conference To Be Held in Columbia

One of the most urgent problems facing the nation's health care systems is the critical and ever-growing need for health manpower—the right numbers and kinds of people in the right places. About 2.8 million people were employed in health occupations in 1966; estimates are that another million will be needed by 1975. In order to help meet this serious challenge, the Missouri Regional Medical Program and the University of Missouri Medical Center has announced that a national conference will be held on Sept. 25, 1968 at the Medical Center Auditorium to discuss "Manpower: Does Health Get Its Share?"

The one-day conference will include presentations by Dr. Vernon E. Wilson, Vice-President of the University of Missouri for Academic Affairs; Dr. Leonard Fenninger, Director of the Bureau of Health Manpower, NIH, Bethesda, Md.; Dr. William L. Kissick, Executive Director of the National Advisory Commission on Health Facilities, Washington, D. C.; Dr. James P. Dixon, President of Antioch College, Ohio; and other prominent figures from across the nation who are deeply involved in health care planning.

The conference will be unique in considering manpower needs, supply and recruitment for the health and competing professions, such as law, engineering, finance, industry, etc.

Key officials from Regional Medical Programs from all over the U. S. are being invited to attend and participate in the conference and panel discussion which will follow, as well as representatives of medical schools, educational institutions, hospitals, health professional organizations, voluntary health agencies, official health agencies and consumer groups.

Health manpower needs are a national challenge, and a nationwide sharing of ideas is needed to find solutions.

President's Message

It is important to report that the MSMA Council held a special meeting in Kansas City on Sunday, July 28, 1968 because *rapid action* is needed on the proposal for a study of medical care costs in Missouri. Delegates to the 1968 MSMA Annual Session will remember that the House approved such a study after it was recommended by the MSMA Ad Hoc Committee on Medical Care Costs, which is chaired by Dr. John Buesseler of Columbia, and was approved by your Council. The study would consist of "an investigation and analysis of the costs and expense factors of health care services in Missouri including a search for differentials based on the nature of illnesses." At that time, it was decided that we would ask the Board of Trustees of the AMA for funding—a matter of some $145,000—or that other funding be sought.

Pursuant to this action, we made two extensive presentations before two subcommittees of the Board of Trustees in Chicago. The committees were interested and asked a great many questions. Our proposal then was presented to the Board of Trustees at its last regular meeting before the AMA Annual Session in San Francisco in June, 1968.

Unfortunately, in its general presentation to the House of Delegates, the Board failed to offer support to our proposal. We have since received a letter from the Assistant Executive Vice-President of the AMA who states that the AMA is interested in our proposal and would be glad to assist us on the staff level, i.e., no funds.

Dr. Hector W. Benoit, Jr., our Immediate Past-President and a delegate to the AMA, was able to make a comprehensive presentation before the AMA reference committee considering the part of the Trustees report which concerned matters similar to our proposal. Again, there was no definite support, although considerable interest was evinced.

David N. Kerr, M.D.

Because of the lack of support from the AMA and because the proposed study is needed NOW, Doctor Buesseler approached administrators of the Missouri Regional Medical Program for funding of the study. The MRMP is interested in the proposal, but only if it has the support of MSMA. He then met with officials of the State Hospital Association, Osteopathic Association and others to gain support for the study. All have expressed interest, but have not taken official action to date.

The proposal to MRMP involves Federal funding and the right of publication as the Project Directors see fit. We believed the special Council session was in order since these two actions were not inherent in the original proposal brought before the MSMA House of Delegates. The Council meeting involved a long, detailed discussion. The final vote to support the Project to be implemented by the University of Missouri School of Business, if funded by the MRMP, was close.

As your President, I accept this decision as my responsibility. I am eager to see the project accomplished. It is time we compile our own accurate figures concerning the true costs of practicing medicine so that we will not be continually confronted with Bureau of Labor statistics, HEW figures and the like.

Should the study indicate that charges by physicians in Missouri are too high (and I do not believe it will) then, at least, we will have proved this fact to ourselves and can voluntarily take necessary steps to correct it. On the other hand, we will have data upon which to base further activities and studies. We will have acted in a positive way to determine medical costs.

I realize that this decision may not be entirely popular with many of you in MSMA. The decision has been made, however, and is now subject to acceptance by the RMP. I am asking for your support.

MSMF Invites Woman's Auxiliary Support

The following letter was written by Paul R. Whitener, M.D., President of the Missouri State Medical Foundation. It was sent to Mrs. E. F. Butler, President of the Woman's Auxiliary to the Missouri State Medical Association, and is being published in Missouri Medicine *at the request of the MSMF Board of Trustees. Mrs. Butler refers to this letter and urges the support of the Woman's Auxiliary in her message on the next page.*

MISSOURI STATE MEDICAL FOUNDATION
515 East High Street
Jefferson City, Missouri 65101

Dear Members of the MSMA Woman's Auxiliary:

At the Annual Session of the MSMA in March, 1968, the House of Delegates assessed each member $10.00 (an increase from $7.50) and junior members $5.00 for the Missouri State Medical Foundation (MSMF).

What is the MSMF?

In a few words, it is a non-profit corporation which was set up by members of the MSMA solely for the purpose of providing loan funds for residents of Missouri who are in medical schools and need . . . or, I should say, must have . . . financial help to continue and complete their medical education.

Our MSMF fund for student loans depends entirely upon these assessments and voluntary donations (which are tax free) from individual physicians and their interested friends, such as the Auxiliary, druggists, etc. All administrative costs are borne by the MSMA.

Medical students must be recommended by their schools, after one semester, to qualify for a loan from MSMF. The money is then loaned to them at a 2% interest rate annually, until their residency and military obligations have been satisfied. When they are able to repay the money, it is returned to the revolving fund to be loaned, again, to another deserving student.

The Foundation competes with the AMA-ERF, various alumni funds and U. S. Government loan programs.

The purpose of this special letter is to alert the Woman's Auxiliary to the function of the MSMF and the need for more low-interest, capital funds for medical students in our own state. We invite you to consider this need and assist us in making more loans possible.

I trust that you will see your way clear to earmark a part of your donations to this important cause wherein 100% of the money raised is used for loans to deserving medical students in Missouri.

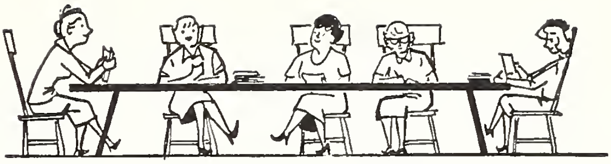
If I can be of assistance in providing further information or answering your questions, please feel free to call on me.

Sincerely,

Paul R. Whitener, M.D.

President

Woman's Auxiliary



One of the purposes of the Woman's Auxiliary is "to extend the aims of the Missouri State Medical Association in its program for the advancement of medicine and public health." This can be accomplished, in one respect, by informing the Auxiliary members about the Missouri State Medical Foundation, its purpose and its importance. In a letter to our members, Dr. Paul R. Whitener, President, discusses the Foundation and its need for our financial support. A copy of his letter will be published in the September issue of our quarterly bulletin, *RX Auxiliary*, as well as in this issue of Missouri Medicine (page 762). The officers and directors of the Auxiliary already have copies of this letter in their files, and copies will be made available to each member at our Fall Conference in Springfield on Oct. 23-24. We urge all members and members-at-large to support this project.

It is inspiring to attend the National Convention. You return with the desire to do much more for your own state auxiliary and community. You find that the doctors' wives are friendly, dedicated, hard-working women who seek no fame, but form the backbone of their communities.

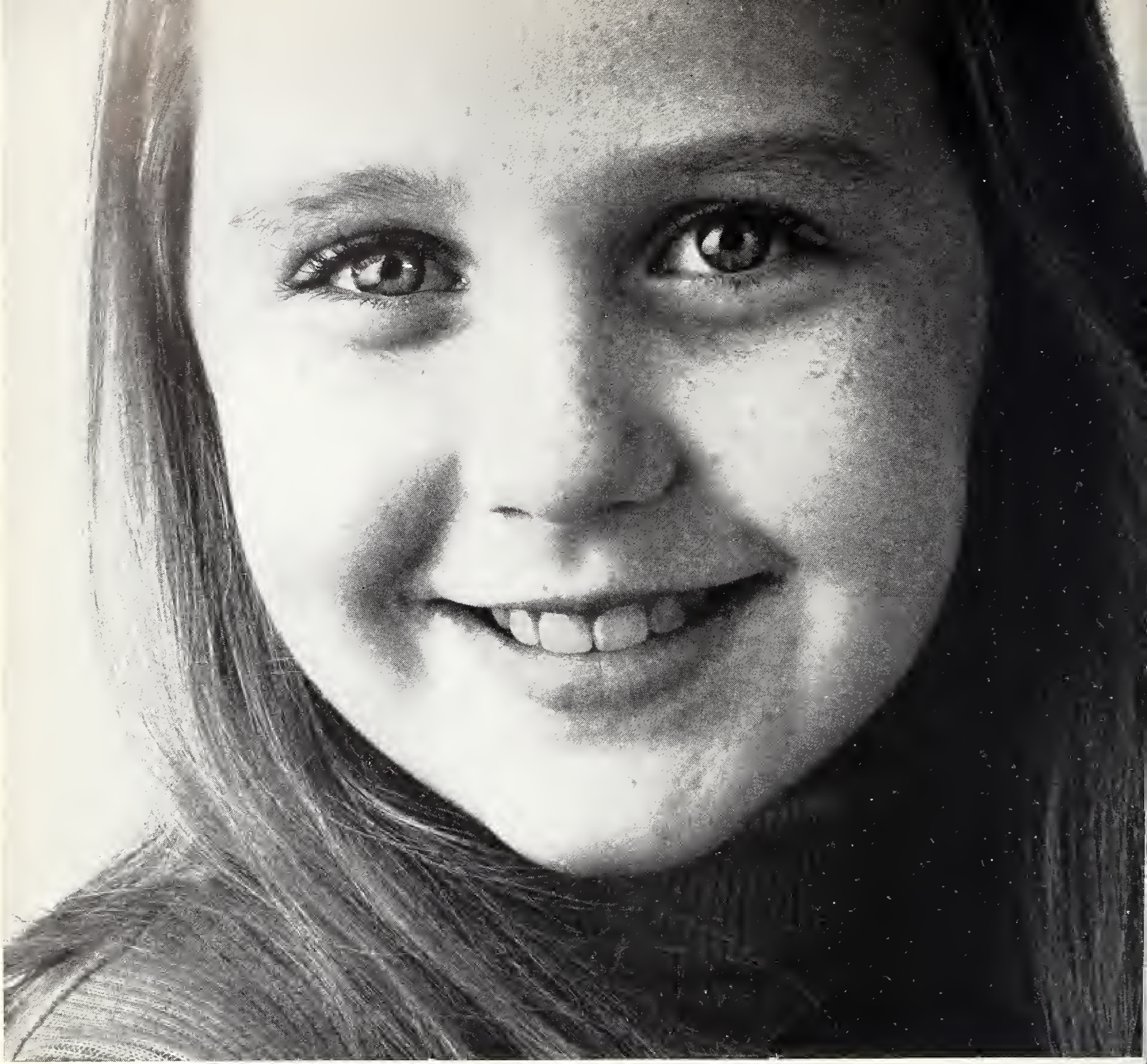
The convention formally opened with the keynote address by Philip Lesly, president of The Philip Lesly Co., a Chicago-based public relations firm and PR counsel to the AMA. Mr. Lesly urged Auxiliary members to stress the separate responsibility of the physician and to strive for improvements that will overcome criticism of the profession. He recommended that we become a vital part of the health care system by making sure that the key people in it, the doctors, can work most effectively within it, rather than in isolation.

Mrs. E. F. Butler, President

In her inaugural address, Mrs. C. C. Long of Ozark, Ark., AMA Auxiliary President, suggested focusing Auxiliary programs on "Accent on Youth." "Not that, by any strength of the imagination, do I think the Auxiliary can solve all the problems of our country," Mrs. Long said, "but, I do believe that we can and should do our part for we have to help not only the medical profession, but, also, this nation of ours."

"We are obligated to help our boys and girls through all the educational means that we have at our disposal," Mrs. Long added. She encouraged Auxiliaries to use available material wisely to implement programs that are needed in their communities.

Will each of you doctor-husbands please encourage your wife to become a member of her county, state and national auxiliary? If you live in an unorganized county, encourage her to become a member-at-large and to contact our Members-At-Large Chairman, Mrs. Hugh S. Brady, Concordia, Mo. 64020. We need your wife as a member and we hope that she would like to be a part of this great organization made up only of doctors' wives.



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Indications: Infections susceptible to oral penicillin G; prophylaxis and treatment of streptococcal infections; treatment of pneumococcal, gonococcal, and susceptible staphylococcal infections; prophylaxis of rheumatic fever in patients with a previous history of the disease.
Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.
Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

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EDITORIALS

MRMP

The Missouri Regional Medical Program is here and is operating. It is, in fact, one of the original four Regional Medical Programs in the nation to become operational in April, 1967. Fifty-four other RMPs throughout the United States are in various stages of planning.

As indicated on the cover page, the scientific section of this issue (pages 719-758) consists of 13 articles concerning the Program. They were written for MISSOURI MEDICINE by Dr. Vernon E. Wilson, Vice-President for Academic Affairs, University of Missouri; Dr. George E. Wakerlin, Director of Planning for MRMP; and other MRMP staff members.

The articles are being published as a compact source of information for the readers of this JOURNAL. They explain the concept of the Regional Medical Program and various individual, but interrelated, projects now being explored or implemented in Missouri.

PHYSICIANS AND POLITICS

Too often in the past, discussions in the Doctor's Dressing Room of the hospital or at medical meetings have relegated to the position of a "second rate physician" the man who is active in the policy making activities of medicine or seriously interested in conventional politics. Fortunately, with the gradual enlightenment which has appeared on the medical scene, the stigma of political association, medical or otherwise, is fading and in its place there is beginning realization by the physicians that they too are members of society in general, as well as of medical associations, and must contribute their efforts and money in order to advance their ideals. At the first national meeting on socioeconomics of health care held at Chicago in January, 1967, some most pungent remarks relating to this matter were made by Wallace S. Sayre, Professor and Chairman, Department of Public Law and Government, Columbia University. A little deliberation regarding his thoughts might prove fruitful.

Doctor Sayre commented that knowingly or otherwise the medical profession has been involved in the American political arena for almost a hundred years, but the physicians individually and collectively have been unhappy about acknowledging this fact. Now, like it or not, we have been thrust directly into it and will have to learn expeditiously the political facts of life. He compared the political system of this country to a non-zero-sum game, which in actuality is a situation in which at least in theory everyone can win at least a little. This is opposed to a zero-sum game in which the losses must equal the winnings so that someone loses. In our political system, the mortality rate is low and the rules of survival can be learned.

The decision making system of this country, through which such far reaching doctrines as Medicare have evolved and will be revised, is the product of a political process which may not be completely ideal. It is a mechanism which has been developed over a long period of time and one which is not likely to be abandoned or modified drastically in the immediate future. No major policy area is exempt from it; when it comes to important public policy, politics is inescapable. Important issues can be moved only from one kind of politics to another and that only within narrow limits. Each participant in this system wants to move the issue in question from whatever kind of politics he may be in at the present time to a kind of politics which is more favorable to him or that which he represents. Our political system is fundamentally pluralistic, implying that there is room for those whose philosophies differ; that there are many centers of power, competitive with each other.

Decisions in the pluralistic, many-centered power system are reached by bargaining among the competing centers of power. *Bargaining is a fundamental key to the system* and inability or indisposition to bargain means defeat. Because there are different resources available to the separate participants in the political arena, because their goals are not the same and because they represent different ideologies, decisions reached ultimately usually involve *compromises among the initial preferences of the contestants.* There are almost no final settlements in the system.

In the national decision making system, and with modification at other levels of the political structure of this country, there are seven centers of power. They are 1) the executive branch, 2) the legislative branch, 3) the courts, 4) the bureaus, 5) the political parties, 6) the interest groups, "pressure groups" or "civic groups" and 7) the communications media. Each of these influences and modifies the actions of the other powers.

There are no giants in our political system. Decisions cannot be made by an individual participant in the system, only by alliance building with other actors. Bargaining is the process through which coalitions are built, and it is also the process by which decisions are made between opposing coalitions.

The virtues of our political system are 1) competitiveness, 2) openness, 3) moderation, 4) responsiveness, 5) decisions are under continuous scrutiny and revision. Some of the drawbacks of the system are the facts that it lacks speed, it is not characterized by high rationality and it lacks certainty. This system does not produce clarity (almost all decisions are ambiguous, promoting compromise), is not characterized by logical coherence in policy.

With these philosophies as a guide, it becomes apparent that if the goals toward which we as physicians aspire are to be reached, there will have to be considerable revision of our thinking. Recognition rather than castigation should be awarded to the physician who participates in medical or conventional politics. There must be more active and less passive physician participation in public office and aggressive interest by individual members of the medical profession in decisions affecting them and their affairs. It is only through the activity and guidance of intelligent, educated, thinking citizens of the community, of which the physicians are one group, that important decisions affecting the future of this country can be made. If we physicians shirk this responsibility individually and collectively, there is no one to blame but ourselves for the consequences which result from our apathy.

J. B. GREGG, M.D.
The South Dakota Journal of Medicine

WILL YOU BE THERE?

Is it too early to speak of the next MSMA Annual Session? Not a bit!

We've decided that it's the "earliest bird" that catches the interest of more MSMA members and, hopefully, can convince each and everyone that his opinions, suggestions and personal participation in the affairs of organized medicine are of greatest importance in these unprecedented changing times.

It is true that organized medicine and individual physicians are faced with more problems and challenges concerning health care, their profession and future than ever before. It is also true that, while an individual physician may be able to do little to influence the decisions of government (as an example), the considered opinion and counsel of more than 4,000 physicians as a group can be a powerful influence and one to be recognized.

MSMA is now planning all aspects of the 111th Annual Session, and you are included. Officers and committees are working diligently on behalf of each MSMA member. You are one of them.

What about your plans? Are you including the 1969 Annual Session on March 20-23 at the Chase-Park Plaza Hotel in St. Louis?

Will *YOU* be there?

CHEER AND HOPE FOR THE PHYSICIAN

Now and then, one runs across a breath of fresh air in the writing field. When the discoverer happens to be a weary, harassed physician, somewhat discouraged at the political attacks on the medical profession and the writer a person with a kind word for the physician—well, it kind of makes you feel good. Read the following words and take heart!

> "There are men and classes of men that stand above the common herd; the soldier, the sailor and the shepherd not infrequently; the artist rarely; rarelier still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion tested by a hundred secrets; tact tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage, so that he brings air and cheer in to the sick room, and often enough, though not as often as he wishes, brings healing."

God bless Robert Louis Stevenson.

ROBERT M. MATHEWS, M.D., President
Johnson County Medical Society
Greater Kansas City Medical Bulletin

To help you manage patients with circulatory disorders:

Initiate therapy with **Hydromox*** Quinethazone 00 mg. (two 50 mg. tablets) daily for 15 days

Many patients with circulatory disorders (essential and benign hypertension, congestive heart failure) may obtain the greatest benefit from HYDROMOX Quinethazone when it is given in a single daily a.m. dose of 100 mg. (two 50 mg. tablets). This dosage usually relieves edema by effective diuresis, and reduces diastolic and systolic pressure. We suggest continuing clinical evaluation over a 15-day period of therapy. If results are satisfactory, a reduction to 50 mg. (1 tablet) daily will usually be adequate for maintenance.

Precautions: Electrolyte abnormalities may be aggravated or produced. Caution is important during prolonged or intensive therapy and when salt intake is restricted. Hypokalemia has been mild and infrequent, and other electrolyte abnormalities rare. The possibility of potassium depletion and its toxic sequelae must be kept in mind, particularly in cirrhotics and patients receiving digitalis. As a preventive measure the use of foods rich in potassium, such as orange juice, may be desirable. Although not a thiazide, HYDROMOX may possess certain characteristics of the thiazides. They have been known to cause jaundice with liver involvement and pancreatitis; hematological complications such as purpura with or without thrombocytopenia and leukopenia (neutropenia); increases of serum uric acid; decreased glucose tolerance as evidenced by hyperglycemia and glycosuria thus aggravating or provoking diabetes mellitus and azotemia in patients with renal disease; photoallergy. Discontinue use a few days prior to elective surgery. When added to a regimen that includes ganglionic-blocking agents, the dosage of these latter preparations should be reduced. Also reduce dosage when one or more of these antihypertensive agents is added to an established HYDROMOX regimen. Contraindicated in anuria. Observe for possible hematologic complications.
Side Effects: Skin rash; gastrointestinal disturbances (chiefly nausea), weakness, dizziness. These seldom require cessation of therapy, and can be relieved by reducing dosage or correcting electrolyte imbalance.
Warning: Enteric coated potassium tablets have been implicated in small bowel lesions and should be used only when adequate dietary supplementation is not practical.

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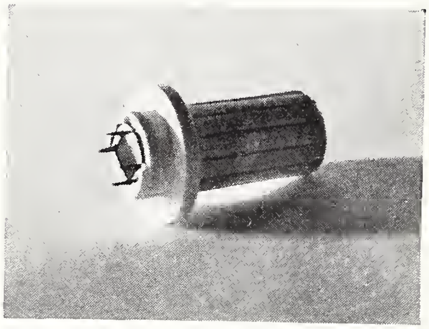

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Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

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COMMENT . . .

Our Readers Write

To the Editor:

The cooperation of physicians has been requested in a study concerning "tracheostomy addiction" in infants and children. Our group at the Children's Memorial Hospital will appreciate the opportunity of seeing patients who have had at least one unsuccessful decannulation attempt. The study is being carried out by the Departments of Pediatrics and Otorhinolaryngology at the Children's Memorial Hospital, University of Oklahoma Medical Center. Arrangements for hospitalization without cost to the family can be made. Physicians interested in having such patients be considered for this study may contact:

Dr. Logan Wright
Children's Memorial Hospital
University of Oklahoma Medical Center
800 N. E. 13th Street
Oklahoma City, Okla. 73104
Telephone: CE 6-1366, Ext. 670

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Each tablet contains
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Indications: Edema and mild to moderate hypertension (Enduron), and mild to moderately severe hypertension (Enduronyl). More potent agents, if added, can be given at reduced dosage.

Contraindications: Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease or impending hepatic coma (hepatic coma due to hypokalemia has been reported in patients on thiazides). Do not use Enduronyl in severe mental depression, suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications—Moderate to severe hypertension.

Contraindications—Pheochromocytoma, paranoid schizophrenia, hyperthyroidism and advanced renal failure. Not recommended in malignant hypertension, children under 12, pregnant patients.

Do not use with: centrally or peripherally acting sympathomimetic drugs; foods high in tyramine (e.g., aged and natural cheeses); parenteral reserpine or guanethidine; imipramine, amitriptyline, desipramine, nortriptyline or their analogues; other monoamine oxidase inhibitors; methyldopa or dopamine; separate Eutron and these agents by two weeks.

Sensitivity to thiazides; severe renal disease (except nephrosis) or shutdown; severe hepatic disease; impending hepatic coma from thiazide-induced hypokalemia.

Warnings—Patients: 1. No other drugs (particularly "cold preparations" and antihistamines), cheese or alcohol without physician's consent. 2. Promptly report orthostatic symptoms, severe headache, other unusual symptoms. 3. Angina pectoris or coronary artery disease patients must not increase physical activity with improved anginal symptoms or well-being.

Physicians: 1. Use antihistamines, hypnotics, sedatives, tranquilizers and narcotics (meperidine contraindicated) cautiously in reduced doses. 2. Stop Eutron two or more weeks before elective surgery; in emergency surgery reduce premedication (narcotics, sedatives, analgesics, etc.) to 1/4 to 1/5; carefully adjust anesthetic dosage to patient response. 3. Use cautiously in advanced renal failure. 4. Pargyline may induce hypoglycemia. 5. Consider possible sensitivity reactions when a history of allergy or asthma is present. 6. If potassium is indicated, dietary supplement is recommended; enteric-coated potassium tablets may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation frequently requiring surgery; discontinue medication immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs; Eutron does not contain added potassium. 7. Possible systemic lupus erythematosus has been reported for thiazides.

Precautions—Pargyline: Use cautiously at reduced dosage: caffeine, alcohol, antihistamines, barbiturates, chloral hydrate, other hypnotics, sedatives, tranquilizers, narcotics. Periodically do urinalyses, blood counts, liver function tests, etc. Use with caution in liver disease. Watch for orthostatic hypotension, especially in impaired circulation (e.g., angina pectoris, coronary artery disease, cerebral arteriosclerosis); also, augmented hypotension in concomitant febrile illnesses. Reduce or discontinue if hypotension is severe. In impaired renal function watch for cumulative drug effects, elevated BUN and other evidence of progressive renal failure; withdraw drug if these persist. In surgery increased central depressant response (hypotension and increased sedative effect) can be controlled by (1) discontinuing at least two weeks prior; (2) in emergency surgery lowering dose of premedication; (3) when necessary, administering a vasopressor. Do not use in hyperactive and hyperexcitable patients. Pargyline may unmask severe psychotic symptoms where emotional problems pre-exist. Use cautiously in Parkinsonism, especially with antiparkinsonian agents. In prolonged therapy, examine for change in color perception, visual fields, fundi and visual acuity. Also, prolonged therapy has made certain patients refractory to nerve blocking effects of local anesthetics.

Methyclothiazide: Use cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery thiazide may reduce vasopressor response and increase tubocurarine response. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia). Give supplemental chloride if hypochloremic alkalosis occurs and supplemental potassium if hypokalemia occurs (especially in digitalized patients). Thiazides may decrease serum P.B.I. without signs of thyroid disturbance.

Adverse Reactions — Pargyline: Orthostatic hypotension and associated symptoms, mild constipation, fluid retention, edema, dry mouth, sweating, increased appetite, arthralgia, nausea, vomiting, headache, insomnia, difficult in micturition, nightmares, impotence, delayed ejaculation, rash, purpura, weight gain, hyperexcitability, increased neuromuscular activity and other extrapyramidal symptoms. Drug fever is extremely rare. Reduction in blood sugar and hypoglycemic effects are possible. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Methyclothiazide: Blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, blood sugar or serum uric acid (gout may be induced); anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice and pancreatitis. Cutaneous vasculitis in elderly patients has been reported with other thiazides.

If side effects are severe or persist, reduce dosage or withdraw drug.

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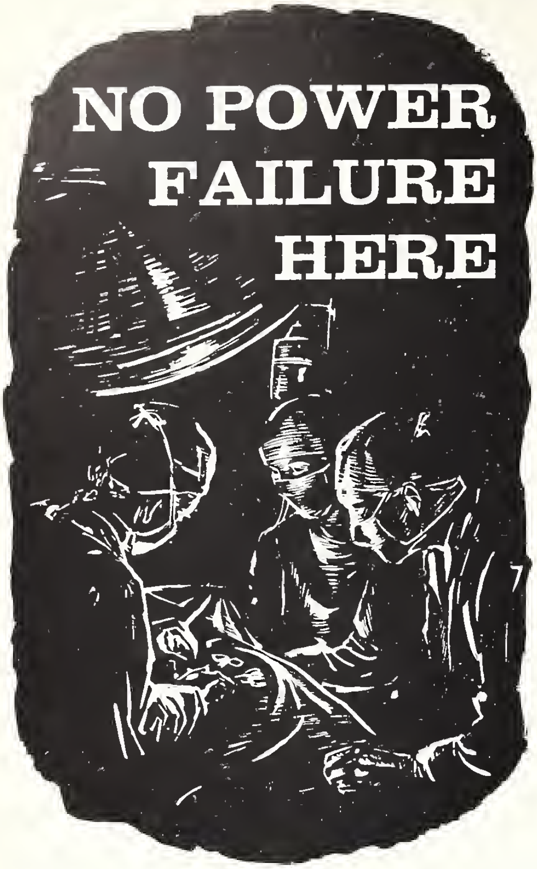

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New Members

Dale **Forrest Burton**, M.D., Wellington, Ill., has become a member of St. Louis Medical Society. Dr. Burton is a native of Bloomington, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1963. He specializes in surgery.

Kimon Efstathianos, M.D., 803 Stadium Dr., Columbia, has become a member of Boone County Medical Society. Dr. Efstathianos is a native of Athens, Greece, received his preliminary education in Greece and his M.D. degree at the National University of Athens in 1951. He specializes in psychiatry.

Phillip E. Korenblat, M.D., 9480 Olive Street Rd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Korenblat is a native of Little Rock, Ark., received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1960. He specializes in internal medicine and allergy.

Gerald Scott Lowther, M.D., 417 Mayfair Dr., Ballwin, has become a member of St. Louis County Medical Society. Dr. Lowther is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1960. He specializes in pediatrics.

Philip E. Morgan, M.D., 226 E. Dunklin, Jefferson City, has become a member of Cole County Medical Society. Dr. Morgan is a native of Tecumseh, Okla., received his preliminary education at the University of Oklahoma and his M.D. degree at the University of Oklahoma in 1951. He specializes in ophthalmology.

Mathew L. Niekels, M.D., 915 North Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Nickels is a native of Aurora, Ill., received his preliminary education at Regis College and his M.D. degree at St. Louis University in 1963. He specializes in radiology.

Carlos Pappalardo, M.D., 35 North Central Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Pappalardo is a native of Tucuman, Argentina, received his preliminary education at Colegio Nacional and his M.D. degree at Cordoba Medical School in 1953. He specializes in plastic and reconstructive surgery.

David D. Rendleman, M.D., 7401 Kingsbury, St. Louis, has become a member of St. Louis County Medical Society. Dr. Rendleman is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at McGill University in 1964. He specializes in internal medicine.

Ronald E. Rosenthal, M.D., 4960 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Rosenthal is a native of Newark, N. J., received his preliminary education at the University of Michigan and his M.D. degree at Washington University in 1961. He specializes in orthopedic surgery.

Phil J. Shanahan, M.D., 9901 Diamond Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Shanahan is a native of Peoria, Ill., received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1964. He is in general practice.

Wm. Wallace Sullivan, M.D., 424 Hill Dr., Glendale, has become a member of St. Louis County Medical Society. Dr. Sullivan is a native of Gilroy, Calif., received his preliminary education at Pomona College and his M.D. degree at Washington University in 1959. He specializes in internal medicine.

John K. Wallace, II, M.D., Missouri Division of Health, Jefferson City, has become a member of Cole County Medical Society. Dr. Wallace is a native of Marion, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1938. He specializes in administrative medicine.

In Memoriam

Cook, Ralph L., M.D., St. Louis, a graduate of St. Louis University, 1914; member of St. Louis Medical Society; aged 80; died July 1, 1968.

Klepinger, Dayton P., M.D., Neosho, a graduate of Kansas University, 1919; member of Jackson County Medical Society; aged 75; died July 16, 1968.

Satterfield, Val B., M.D., Chesterfield, a graduate of Washington University, 1924; member of St. Louis Medical Society; aged 68; died July 17, 1968.

When eating fads of teens or tots Lead to a sudden case of "trots"

Parepectolin for quick relief of acute diarrhea
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In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

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Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
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Usual Children's Dose: One or two teaspoonfuls three times daily.

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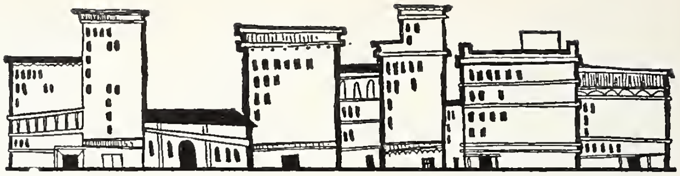
From the Medical Schools



MISSOURI UNIVERSITY

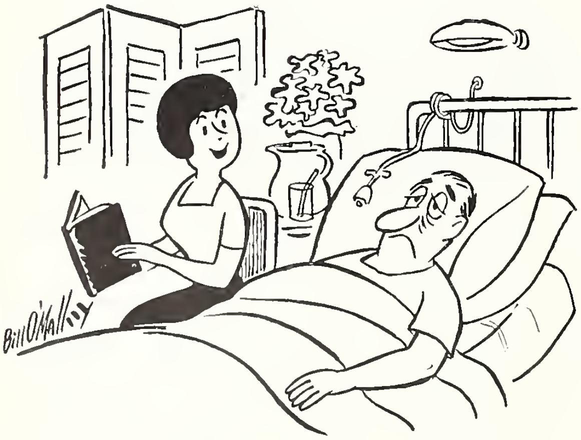
The department of physiology at the School of Medicine has announced the appointment of two assistant professors who are joining the faculty this fall.

Dr. Franklyn G. Knox, who holds both M.D. and Ph.D. degrees from State University of New York in Buffalo, comes to Missouri from the National Heart Institute, Bethesda, Md. Dr. Patrick D. Harris, who received bachelor of science and master's degrees in electrical engineering from the University of Missouri-Columbia and a Ph.D. in physiology from Northwestern University, returns to this campus from the University of Indiana where he has held a postdoctoral fellowship from the National Institutes of Health for the past 18 months.

Dr. William D. Mayer, dean of the School of Medicine and director of the Medical Center, has announced the appointment of the following nine new faculty members who joined his staff in July:

Dr. John A Shively is now professor of pathology. He was professor of pathology and director of the School of Medical Technology at the University of Texas before joining the MU staff. He received his M.D. degree at the Indiana University School of Medicine.

Dr. Arlene P. Martin and Dr. Marie L. Vorbeck, biochemists who have worked together in research at Jefferson Medical College in Philadelphia, have dual appointments as associate professors in the departments of pathology and biochemistry. Dr. Martin obtained her doctorate degree at the University of Rochester. Dr. Vorbeck received her Ph.D. degree at Cornell University.



"I'm really enjoying this book, dear!"

Charles W. Sargent, Ph.D., is now associate professor in the department of community health and medical practice and associate professor for library and informational science. He also is assistant director of the Medical Center's computer program. Dr. Sargent holds masters' degrees in history and library science from Michigan State and Michigan Universities. His doctorate in history is from the University of New Mexico.

Edward S. Weiss is assistant professor in the department of community health and medical practice to work in the area of environmental health studies. He holds a master's degree in public health from the University of Michigan and has been associated with the U. S. Public Health Service in Washington, D. C. for the past ten years.

Dr. Grant Miller has joined the University of Missouri faculty as instructor of surgery in the specialty of otolaryngology. He comes from the University of Colorado Medical Center. He was graduated from George Washington University School of Medicine.

Dr. Boyd E. Terry, instructor in general surgery, is from Upstate Medical Center, State University of New York in Syracuse. He received his M.D. degree from Washington University.

Dr. Sung Ae Lee, who received her M.D. degree at Yonsei University, has joined the faculty as instructor in the department of radiology.

Dr. Jon A. Klover is an instructor in the department of community health and medical practice and will teach in the health services management curriculum, a joint program of the School of Medicine and the School of Business and Public Administration.

WASHINGTON UNIVERSITY

Forty faculty and staff members at the School of Medicine have received promotions.

Three elevated to emeritus rank are Frank R.

Bradley, M.D., professor emeritus of hospital administration; James Barrett Brown, M.D., professor emeritus of clinical surgery; and Walter P. Covell, Ph.D., M.D., professor emeritus of anatomy and otolaryngology.

Eight new professors are Stephen C. Kinsky, Ph.D., professor of pharmacology; John M. Kissane, M.D., professor of pathology and of pathology in pediatrics; Ruth Silberberg, M.D., George D. Sorenson, Jr., M.D. and William E. Stehbens, Ph.D., M.D., professors of pathology; Edward Massie, M.D., professor of clinical medicine; Walter G. Wiest, Ph.D., professor of biochemistry in obstetrics and gynecology; and William H. McAlister, M.D., professor of radiology and radiology in pediatrics.

Newly elevated associate professors are the following: Robert C. Ahlvin, M.D., pathology; Louis V. Avioli, M.D., medicine; David Oliver Davis, M.D., radiology; Heinz Haffner, M.D., Carl E. Lischer, M.D., C. Alan McAfee, M.D., clinical surgery; Alexis F. Hartmann, Jr., M.D., pediatrics; Allan E. Kolker, M.D., ophthalmology; Virgil Loeb, Jr., M.D. and Robert Paine, M.D., clinical medicine; Frank M. Matschinsky, M.D., pharmacology; David Schlessinger, Ph.D., microbiology; and Carl A. Wattenberg, M.D., clinical genitourinary surgery.

Newly appointed assistant professors are William C. Black, M.D. and Frederick T. Kraus, M.D., pathology; Arthur R. Bortnick, M.D., clinical obstetrics and gynecology; Neville Grant, M.D., Robert S. Karsh, M.D. and Burton A. Shatz, M.D., clinical medicine; Franz U. Steinberg, M.D., clinical medicine and clinical preventive medicine; Antonio Hernandez, Jr., M.D., pediatrics; Earl P. Holt, Jr., M.D., Robert E. Kuhlman, M.D. and Willard B. Walker, M.D., clinical surgery; Vernon J. Perez, medical psychology; Jacqueline A. Reynolds, Ph.D. and Ernest S. Simms, research of microbiology; Luis H. Schwarz, M.D., psychiatry; and Bernd Silver, M.D., clinical ophthalmology.

ST. LOUIS UNIVERSITY

Dr. Robert H. Felix, dean, School of Medicine, has been elected to membership in the National Academy of Public Administration.

Members are chosen by the Academy for their distinction as administrators or scholars in public administration. The 77 members in the Academy are asked to sit as panelists and in study groups and seminars in an attempt to bring administrators and scholars together in a two-way exchange of ideas. Purpose of the Academy is to give to public administration continuing active, critical and constructive intellectual attention.

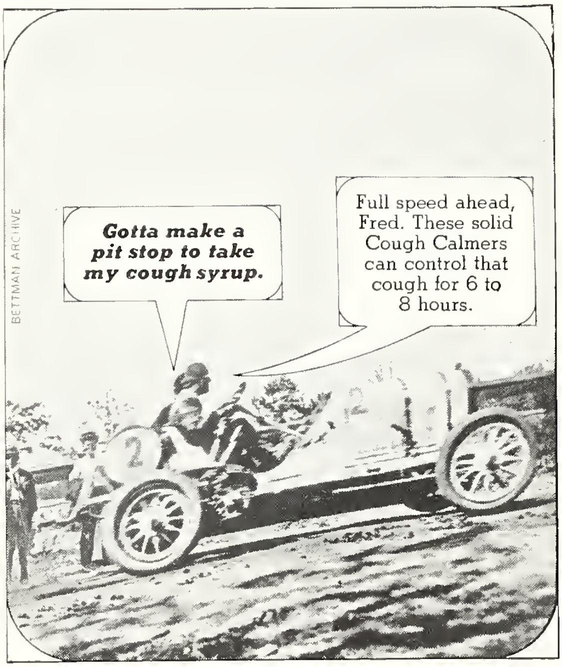
Dr. Robert E. Olson, professor and chairman of the department of biochemistry, attended the Japan-U. S. Medical Sciences Panel Sessions in Tokyo on Aug. 3-8. He also made a field trip to the Anemia and Malnutrition Research Center in Chiang Mai, Thailand, the week of Aug. 12.

Dr. Philip Gelber, a 1960 alumnus of the School of Medicine and resident in opthalmology at the St. Louis University Hospitals, was the recipient of the first annual Ralph A. Kinsella, Sr. Memorial Tribute Award presented by the St. Louis University Hospitals medical and dental staff.

Dr. Henry E. Oppenheimer, who served as the first medical staff president, made the presentation. Dr. John J. Budd, Jr., assistant clinical professor of internal medicine and currently president of the staff, took part in the ceremony.

Also present were Dr. Richard J. Dames, assistant dean of the School of Medicine, and two of the three physician-sons of the late Dr. Ralph A. Kinsella, Sr. They are Dr. Edward A. Kinsella, assistant clinical professor of internal med-

(*Continued on page 776*)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Extended care is currently the focal point of many discussions dealing with total patient care. The American Medical Association, rising to meet the need for an assessment of the medical profession's role in the provision, supervision and measurement of such care, has published *The Extended Care Facility.*

This comprehensive, 172-page handbook treats such topics as area-wide planning, patient-care policies, the formation of utilization review committees, models of patient-transfer agreements, etc. It may be obtained from the AMA Order Department. In the U. S., U. S. Possessions, Canada and Mexico, copies are available for 90 cents each; 70 cents for medical students, interns and residents. The cost is $1.10 in all other countries. Orders should indicate the code number, OP-157, and must include remittance.

* * *

The AMA Committee on Cutaneous Health and Cosmetics has released an eight-page pamphlet entitled *Color Is Only Skin Deep.* It is intended to dispel may of the mysterious and superstitions surrounding the important subject of skin pigmentation.

Single copies of this brochure, written by Dr. S. William Becker of the Department of Dermatology of the University of Illinois, will be supplied complimentarily when requests are directed specifically to the Committee at the American Medical Association.

Medical Schools (Cont'd)

icine, and Dr. Peter W. Kinsella, assistant clinical professor of internal medicine.

Dr. Gelber was appointed a fellow for one year on the Retina Service at the St. Louis University Hospitals effective July 1.

Dr. William Stoneman, III, assistant professor of clinical surgery, was installed as director of the Bi-State Regional Medical Program for Heart Disease, Stroke and Cancer at a meeting of the advisory committee. Dr. Stoneman fills a post jointly held by Dr. Robert H. Felix, dean of the St. Louis University School of Medicine, and Dr. William H. Danforth, Washington University. He was president of the St. Louis University Hospitals medical staff last year.

Dr. Edward T. Auer, chairman of the department of neurology and psychiatry, has been named visiting professor at the Institute of Living, Hartford, Conn. on Nov. 18 and 19.

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WANTED: Associate or partner in general practice in Jefferson City, Mo., 30 miles from Missouri University Medical Center. A practice overwhelming after 2½ years. Net income, $35,000 to $45,000 annually. Building a new medical building with room for one or two associates to be completed September, 1968. If interested, pleace call Jefferson City, Area Code 314, 635-2542 or 635-6580.

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WANTED—Three internists or G.P.'s and one urologist. 228 bed accredited GM&S hospital. Congenial atmosphere. Excellent fringe benefits. Salary contingent on qualifications. Contact Director, VA Hospital, Poplar Bluff, Mo. 63901.

MISSOURI LICENSED—Board-eligible psychologist seeks association in group practice or partnership in St. Louis area. Contact Box 350, Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

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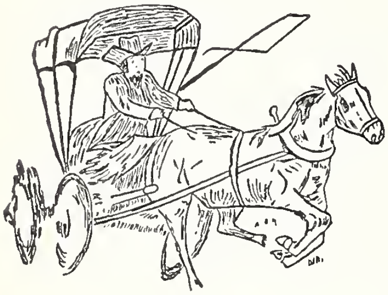
Missouri Medicine in Review



FORTY YEARS AGO

Washington University is approaching consummation of an effort to expand to $4,000,000 the $1,200,000 gift of the late Mrs. William McMillan and to make St. Louis a world center in ophthalmology and otolaryngology. Only a small proportion of the total remains unsubscribed. Construction is to proceed at once on the nine-story McMillan Hospital which is to stand just east of the new St. Louis Maternity Hospital. It will include the first specialized otolaryngological institute in the world and will be the first hospital of the Washington University group that will not be a closed hospital. It will be open to any reputable specialist.

Mrs. Marilla E. Comstock, widow of Dr. T. Griswold Comstock, a founder of St. Louis Children's Hospital, willed five-sixths of her $600,000 estate to charity. Most of the $590,000 charitable bequests are to Barnard Free Skin and Cancer Hospital, the Shrine Hospital for Crippled Children and the Masonic Home of Missouri. Mrs. Comstock, who was 89 years old, died last April.

Members of the Boone County Medical Society met at Columbia and enjoyed a dinner at the Daniel Boone Tavern. The courtesy of the evening was extended to Dr. Walter E. Dandy, Associate Professor of Clinical Surgery, Johns Hopkins University School of Medicine, who gave an address on "Brain Tumors: Diagnosis, Localization and Treatment." Doctor Dandy illustrated his subject with lantern slides.

TWENTY-FIVE YEARS AGO

In view of the favorable results obtained in more than 600 consecutive cases which he reports in the August 7 issue of *The Journal* of the American Medical Association, J. Albert Key, M.D., St. Louis, says, "I believe that the practice of implanting sulfonamide powder in clean operative wounds should become routine in all civilian and military hospitals."

The conception that cerebrospinal fever is a systemic infection with localization in the central nervous system is being adopted more and more by physicians. With increased knowledge of metabolism, the harmful effects of dehydration and ketosis on the bodily resistance in all septicemias has become impressed on practitioners. Consequently, the suggestion made by Blumberg and Gleich in the April, 1943 issue of the *Archives of Pediatrics* that the meningococcic meningitis be treated with full doses of a sulfonamide drug and a continuous infusion of a 5% solution of glucose in normal salt solution has been received with favor.

The Armed Forces must have 6,000 additional physicians by Jan. 1, 1944, reports *The Journal* of the AMA in an editorial.

TEN YEARS AGO

James P. Murphy, M.D., St. Louis, was elected president of the Medical Alumni Association of St. Louis University at a meeting in San Francisco during the AMA Annual Convention.—Keith Wilson, M.D., St. Louis, was elected president of the Washington University Medical Alumni Association.

Marion C. Walton, M.D., Festus, has purchased the former Willow Springs General Hospital and will convert it into a clinic which will be called the "Walton Clinic."

Plans are underway to honor P. W. Jennings, M.D., of Canton for his 50 years as a practicing physician in Lewis County.

From a group of 208 Missouri residents requesting admission to the University of Missouri School of Medicine, the Admissions Committee accepted 75 students for the new first class of 1958.

Eugene T. Dmytryk, M.D., Webster Groves, has been elected to membership in the New York Academy of Sciences.

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(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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EARL L. LOYD, M.D., ***Jefferson City***
Chief Medical Consultant
Missouri Section of Vocational Rehabilitation

The Social Security Disability Program

Special Feature

Private practitioners came under Social Security in 1965. In addition to earning retirement and survivors' protection, they also have earned disability protection. Work credits could have been accumulated before 1965 through internships, residencies, military service and other covered employment. This article discusses the disability program and how recent changes in the law will affect the physician and his patient.

IF YOU PAY—or if you have ever paid—Social Security contributions on your earnings, you and your family may be covered by the Social Security Disability Program.

In the Disability Program, a person may be eligible for monthly payments if he is disabled because of a severe physical or mental impairment which has lasted (or is expected to last) a year or longer.

The Disability Program was improved by legislation that became law early this year. As a result of an increase in benefits under the new Social Security Amendments, monthly payments can amount to $189.90 for a disabled worker and $395.60 for a family. In forthcoming years, maximum monthly benefits will be as much as $218 for an individual and $434.40 for a family.

To be insured for disability purposes, a person disabled when he is 31 years of age or older needs to have worked on a job covered by Social Security for at least five of the ten years preceding the onset of disability. For younger workers who may not have had the chance to work this long, the work requirement ranges down with age to as little as one and one-half years of work credits.

Under the new amendments, an additional group of people—disabled widows (including certain surviving divorced wives) and disabled dependent widowers of insured workers—can become eligible for reduced benefits at 50 years of age or older, even though they themselves have never worked. The disability must occur before or within seven years after the spouse's death or, in the case of a widow caring for a child entitled to benefits, within seven years after her mother's benefits end.

Benefits begin with the seventh full month of disability, since a six-month waiting period is required by law. Payments can last as long as the disability continues. At the age of 65, disabled workers' payments are converted into retirement benefits without any change in amount.

HELPING YOUR PATIENTS

Many physicians routinely advise any patient who they think might qualify for disability benefits to consult his Social Security Office. Such advice can be a great service to the patient. Since disabled patients often are having financial difficulties, your suggestion that they file may result in their getting urgently needed funds.

The people in any Social Security Office can tell a claimant what the eligibility requirements are and can help him apply for benefits. If a person is unable to come to the office because he is homebound or hospitalized, a Social Security Representative can arrange to visit him.

Up to the present time, the most frequent causes of disability have been arteriosclerotic and hypertensive heart disease, emphysema, schizophrenic disorders, pulmonary tuberculosis, rheumatoid arthritis and osteoarthritis. Currently in Missouri approximately 27,000 disabled persons—plus approximately 21,000 dependents—are receiving almost $3,300,000.00 a month in benefits under the Social Security Disability Program.

SOCIAL SECURITY DISABILITY PROVISIONS AT A GLANCE

- **Benefits go to disabled workers under 65 years of age and their dependents.**
- **A disabled worker needs credit for a certain amount of work under Social Security. If he is disabled before age 31, he can now be eligible for benefits with credit for fewer years of work than before.**
- **Widows and dependent widowers who are 50 years or older can receive reduced benefits based on disablity, if the spouse was covered under Social Security.**
- **Persons handicapped continuously since before the age of 18 may get benefits under the "childhood disability" provisions when a parent covered under Social Security dies or becomes entitled to retirement or disability benefits.**
- **Benefits are payable if the disability has lasted, or is expected to last, 12 months or longer or result in death.**
- **Benefits generally begin with the seventh full month of disability.**
- **Benefits for a worker are the same amount that retirement benefits would be if he were 65 years old.**
- **All applicants are considered for vocational rehabilitation services.**

Reporting Data

When a patient applies for disability benefits, he is asked where he has received treatment. He also signs a consent form that authorizes any physician having medical records pertaining to him to furnish reports for official use in evaluating his disability.

Disability decisions are made by an evaluation team consisting of a physician and a lay disability evaluation specialist. The team works in an agency of the state in which the applicant lives. In Missouri, this work is done by the Section of Vocational Rehabilitation, State Department of Education.

Typically, the evaluating physician is a private practitioner serving the agency on a part-time basis. He reviews the reports from physicians and hospitals and, in conjunction with the nonmedical member of the team, decides whether the applicant's impairment is disabling under the law. The evaluating physician neither sees nor examines the patient. He depends entirely upon the evidence reported by you and other physicians who have examined or treated the applicant.

Experience has shown that the extent of a patient's disability can be determined largely from evidence from his own physician's records. By giving a detailed report of objective data in your files, you can help speed the decision on your patient's claim. On the other hand, long delays can result if the physician responsible for evaluating the evidence must write back to you or seek from other sources medical information about symptoms, signs and laboratory findings that you may already have in your files.

For best results, report the same information that you would send to any colleague to give him a complete medical picture of the patient. This report should contain not only a diagnosis but, also, a complete history, results of physical examination and relevant diagnostic tests.

You may wish to save time in preparing the report by enclosing photocopies of pertinent portions of the patient's chart, including laboratory reports, electrocardiograms, x-rays and the like. Originals are welcome and will be promptly returned, if requested.

Under the law, your patient—not the Government—is responsible for providing the initial medical evidence in support of his claim. This is true even though you may receive a request for a report directly from a Social Security Office. This is done as a courtesy to the patient at his request to help expedite his claim. Thus, the Government cannot assume responsibility for any charge you may wish to make for furnishing medical information from your records.

Sometimes, more medical evidence is needed for an evaluation than is available in the patient's chart. In this situation, the physician evaluating the claim may ask you to perform the needed tests and examinations at Government expense, or he may find it necessary to refer the patient for an independent consultative examination, also at Government expense. When the latter is done, the consultant's report can be sent to you, if you wish.

"Childhood Disability"

In addition to covering disabled workers and disabled widows, the Social Security Program has a provision for "childhood disability" benefits, a somewhat anomalous title since these benefits are paid after the person reaches the age of 18. Ordinarily, children cannot get Social Security benefits as dependents after reaching 18 unless they are full-time students, and then only until they reach the age of 22. Under the childhood disability provisions, however, a person continuously disabled since before reaching the age of 18 can be eligible for benefits after he reaches 18.

Childhood disability payments begin when the beneficiary's parent, who is covered under Social Security, dies or becomes entitled to retirement or disability benefits. Benefits can continue as long as the "child" lives if he remains disabled. The "child" need not himself have worked under Social Security.

Since 1957, childhood disability benefits have been awarded to almost 300,000 persons who are too handicapped to be self-supporting. Over 65% of beneficiaries under this program suffer from some form of mental deficiency. Other prevalent conditions of beneficiaries under the program include cerebral palsy, schizophrenic disorders and epilepsy.

Motivating Rehabilitation

In addition to paying cash benefits, one of the main goals of the disability program is to help restore as many applicants as possible to gainful work. At the time your patient's claim is being evaluated, he also is being considered for possible services by Missouri Section of Vocational Rehabilitation. Such services, which include medical rehabilitation, counseling, teaching of new employment skills, training in the use of prostheses and job placement, are usually financed from State-Federal appropriations.

Additional resources also are provided through Social Security Trust Funds to pay the costs of rehabilitating certain disability beneficiaries. This should save Social Security money because, in the long run, the cost of rehabilitating beneficiaries is less than the expense of paying them benefits. Currently, the Missouri State Agency for Vocational Rehabilitation is working with more than 1,000 disability beneficiaries.

As the patient's physician, you are in a good position to reinforce his interest in returning to productive work, if this is feasible. Incorporated in the Social Security Disability Program are several incentives for rehabilitation that doctors often cite to help motivate patients.

For instance, a worker on the disability rolls who returns to work despite a severe impairment may continue to get monthly benefits for as long as a year while he tries to reestablish himself as self-supporting. If he shows himself able to work at the end of this period, benefits stop. Benefits continue, however, if his attempt is unsuccessful. This helps to overcome the anxiety of a beneficiary who fears all income will be cut off if he fails in his attempt to work.

As a further incentive, former beneficiaries who have recovered or returned to work receive special consideration should they again become disabled. If disability recurs within five years (seven years for widows), they need not go through the normal six-month waiting period before benefits resume.

Dr. Blasingame Terminates Services With AMA

Dr. F. J. L. Blasingame, Chicago, has terminated his services as executive vice-president of the American Medical Association, a position he has held since 1958, it was announced jointly on September 9 by Dr. Blasingame and the Board of Trustees.

Dr. E. B. Howard has been named acting executive vice president, Dr. Burtis E. Montgomery, chairman of the board, reported. Dr. Howard has been assistant executive vice-president since 1948.

Dr. Blasingame left private practice in Texas to assume his AMA position. Previously, he had been on the Board of Trustees, and he is a past president of the Texas Medical Association.

Dr. Howard was active in the public health field in the United States and Peru prior to joining the AMA.

In view of growing needs and increased functions of AMA since the latest management study was made several years ago, the board authorized retaining a firm of management consultants to conduct an analysis of the AMA operations.

The Board of Trustees decided that under these circumstances, new administrative direction would be required.

Know your candidates! Know their views!

VOTE ON NOVEMBER 5th!

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should be considered for your arthritic and rheumatic patients who cannot tolerate aspirin.

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because of gastric
discomfort

Private Practice Physicians tried Magan on almost 700 patients whom they judged intolerant to aspirin and other salicylates.

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May be tolerated by some persons intolerant to aspirin by reason of gastrointestinal irritation.

Magan is a new salicylate product from Warren-Teed.

A single chemical entity . . . no coating, no buffering, sodium free and non-acetylated.

Composition: Each orange colored tablet contains 5 grains (approx. 325 mg) of magnesium salicylate.
Dosage: 1 or 2 tablets every 4 hours with a full glass of water.

Considerations for Coping With the New Climate Involving Health Care

In August, 1967, the Board of Trustees of the American Medical Association retained Mr. Philip Lesly as its Public Relations Counsel. Mr. Lesly is one of the best-known and distinguished public relations counselors in the United States. He has presented to the Board of Trustees a general statement entitled "Considerations for Coping with the New Climate Involving Health Care." The Board feels that this statement is of such import that it voted to transmit the statement to the House of Delegates as follows:

The American Medical Association is dedicated to fostering optimum health care for the American people and believes this can best be provided through the system of incentives and freedom for physicians.

In this period when all aspects of American life are under pressure, the health of the public is dependent on an orderly pattern of development in our health-care system.

Health care is a major aspect of the nation's total climate of urgent expectations. Aspirations for excellent education, safety, health care, recreational facilities, government services and other resources have all reached degrees far beyond the capabilities to provide them, even in this most bounteous nation in the world's history. All these phases of our society are being pilloried because they cannot multiply themselves as fast as the expectations for them have been built up.

Because of our high levels of education and affluence, most of our people do not face their forebears' day-to-day struggle for survival and security. They have acquired an unprecedented freedom to aspire for better things; but, at the same time, they have the "little knowledge" that leads them to feel they can determine how everything should be conducted, including such intensely complex matters as health care.

As a result, health care is now in the spotlight of public interest. Medicine no longer functions in the sober privacy of its scientific and ministering roles. Health and life are the most urgently desired of all of people's expectations. They involve every person. And they therefore arouse the most emotion-laden concerns and scrutiny.

This situation calls for great statesmanship by the leadership of the profession, to avoid its being swept into destructive channels by the tidal wave of demand for its benefits.

Medical care is immersed in an emotional climate by patients and their families, politicians, pressure groups, and government. Doctors are trained as scientists to concentrate on facts and to avoid the distortion of emotion and illusion. Yet the emotional climate surrounding health and life is as important as facts in determining what the public and government feel about the medical profession. Because emotion is a potent part of the make-up of people's attitudes, facts alone are not able to answer them.

Developing equilibrium between the complex realities of health care and the burgeoning expectations of the public and government involves these considerations:

1. Health care today is a multifaceted and intricately interlocked *system*. The ecology of any system is destroyed when undue pressure or demand is exerted at one point. Development of the system requires that development of all its segments be proportionate, rather than—as in the case of Medicare and Medicaid—having segments of demand applied without due consideration for the pace of availability of manpower and resources.

2. The pressure of demand is a great tribute to medicine. It comes from the great awakening to how much the medical profession can do for people. This condition is the consequence of the profession's achievements and skills, and meeting it is a part of the profession's responsibility in making its progress truly effective.

3. Medicine is progressing at a startling rate and this progress must continue. All progress creates change, and future progress in medicine is certain to create more change. The challenge to professional medicine is to master and direct change, rather than to be overrun by it, or to have others take up the role of imposing accommodations on the medical system.

4. Informed projections indicate that the health team of 1975 may include 20 auxiliary persons for each physician. It is estimated that to meet reasonably the health-care expectations of all the people would require 600,000 practicing physicians. Thus it would require more than 12,500,000 health-care personnel, or one for every 7 employed persons in the country. This is patently an unrealistic expectation. It is unwise and dangerous to lead the public to have such expectations that cannot be fulfilled. It is also dangerous to permit pressures for optimum service for selected groups of the disadvantaged, thereby hindering proper care for the rest of the population.

Emphasis must be placed on the most efficient utilization of available resources; orderly and balanced increases in these resources; and means to distribute services on an equitable, selective, priority basis.

5. Pressures on behalf of any single aspect of the health-care spectrum will lead to distortions and breakdowns in the system. This is true of pressures on behalf of any given pattern, including the traditional system. It is necessary to foster *balanced development* of health care in keeping with changes created by medical progress, needs of the public, make-up of the medical manpower pool and other factors. Otherwise pressures will build up where the votes are greatest and lead to severe ruptures in the practice of medicine.

6. In a free society privileges must be matched by responsibilities. This is true of students who are given an education, minority groups that are given aid in advancing, or any others. The medical profession enjoys perhaps the greatest privileges of any segment of our society. It must assume comparable responsibilities. Today, a posture interpreted by the people as only protecting these privileges is likely to create an emotional backlash that will undermine the entire stature and acceptance of the profession. Discipline, standards of ethics, concern for the financial well-being of the patient and the nation must be as conspicuously fostered as the interests of physicians themselves.

Based on these circumstances, it is recommended that the following principles guide the activities of the American Medical Association:

1. The AMA should concentrate on action to master the forces of change. Only the minimum attention necessary should be devoted to reacting to what others say and do, and thus avoid marching to their tune, abdicating leadership of medicine to outsiders and dissipating the AMA's energies and resources.

2. The AMA and all medicine should emphasize the need for a *balanced* approach to all developments in health care. It is vital to discourage working on any one part of the spectrum without being sure that all related areas—the supply and types of manpower, timetables, facilities, funds, etc.—are activated at an accommodating pace.

3. The AMA should develop and foster positive action programs addressed to meeting emerging needs as they appear. It should develop and promote recommendations on:

- Allocation of manpower and resources to meet the needs of the majority of the public while gradually adding to ability to fill unmet needs.
- Leadership in advancing all phases of a balanced health-care system:

—Manpower, both medical and supporting

—Facilities

—Increased efficiency in utilization of manpower and resources

—Absorption of new knowledge and techniques to raise standards constantly for all members of the profession.

—Financing of health care on a sound basis from all sources as they can most equitably meet the needs: patients, voluntary insurance, corporations, welfare, government, etc.

—Responsibility in moderating costs in all aspects of health care

4. The AMA and affiliated medical societies should emphasize the self-disciplinary responsibilities of the profession. In many other important phases of American life the disciplinary function is now regulated by the federal government, such as the utilities, transportation, communications, antitrust, fair trade practices. If discipline of medicine is not to be pre-empted by the federal government, it must be up-to-date and conspicuous by the medical profession itself.

5. The AMA and affiliated medical societies should examine the operational ability of the profession to continue to afford leadership. Attention should be given to the flexibility and efficiency of the profession's organizational structure; membership for all elements of the profession; and attraction of new physicians.

6. The AMA and members of the profession should recognize that the prominence and complexity of health care in the United States now make it a subject of constant and pervasive interest. It is always in the limelight. A great many conditions outside of the medical profession now determine what the posture and communications of the profession must be, rather than the wishes and the timetables of medicine.

Accordingly, the foundations of public relations for the profession must be:

1. *Practical.* Each circumstance must be viewed in terms of what the consequences of any action or position will be. Actions or statements should not be viewed on their own terms, but in terms of what will happen as a result. When the consequences of an action or statement will be constructive, it should be considered; when it cannot make a contribution to AMA's objectives, regardless of other merits, it should be bypassed.

2. *Positive.* AMA should be the leader of action and thought on medicine, not in the position of primarily reacting to the actions or statements of others.

3. *Anticipatory.* To be the master of change rather than its victim, it is essential to look ahead and sense what challenges may arise. Provision should be set up for instant action and response whenever it is vital. Neither medicine nor communication can meet 1968 situations with Nineteenth Century systems. Today's instantaneous, widespread, complex communication requires the ability to function immediately; any other course makes the profession extremely vulnerable to the initiatives of those with opposing motives. In line with broad policies, the AMA officers and staff

(Continued on page 803)

medical melange

Notes of interest from Here . . . . and There

Dr. Sam D. Hoeper, Grandview, has given a registered herd of 32 Larigo Shetland ponies to Central Missouri State College in Warrensburg. The ponies will provide the Agriculture Department of the College with opportunities to expand curriculum offerings and enable students to do studies in Shetland nutrition, management and husbandry. **Dr. Milford Quimby**, professor of agriculture at CMSC, pointed out that this is first time that an individual has donated a gift of this size to the College. In addition to his gift to the College, Dr. Hoeper also has established 13 scholarships for Grandview High School seniors planning to attend CMSC.

Mr. Edgar J. Mothershead, executive secretary of the St. Louis County Medical Society, is the author of a book of poems, editorials and two short stories titled ". . . Of Many Pens," which was published on September 18. Although approximately half of the material in the book has been published previously in various magazines and newspapers, this is the first time this amount of Mr. Mothershead's work has been presented in one publication.

Dr. B. E. Ellis, Gideon, has received a 50-Year Masonic Pin and a lifetime membership card from the Masonic Lodge of Greenway, Ark., Dr. Ellis, who is a native of Greenway, has been practicing medicine in Gideon for more than 40 years.

G. A. Oliver, M.D., a member of the staff at Medical Arts Clinic in Farmington and chief of surgery at Madison Memorial Hospital in Fredericktown, has been appointed consultant in surgery at St. Louis City Hospital. Dr. Oliver is an Instructor at the Washington University School of Medicine.

Col. John R. Dixon, M.D., Brookfield, has received a certificate of appreciation and a lapel pin for 15-years' service to the nation as senior medical advisor of Linn County Selective Service Board No. 62. Dr. Dixon, who retired from the Air Force Reserves in 1964, was appointed medical advisor to the Board by President Eisenhower and continued to serve even while called to active duty in the Air Force in 1961 at Richard-Gebauer Air Force Base.

The **Flying Physicians Association** held its 14th annual meeting at the Lake of the Ozarks recently. Organized in the medical profession in 1954, the Association promotes general aviation safety through example and education, stresses the importance of instrument training to general aviation safety and works at reducing the number of accidents in civil aviation. Topics for discussion were on the twofold theme, aerospace medicine and aviation safety, including general aviation, handicapped pilots and psychological and emotional factors in general aviation accidents.

Dr. Walton Forest Dutton, Noel, recently celebrated his 92nd birthday by spending much of the day in his office. Despite his advanced years, he is alert, active and still practicing medicine. Dr. Dutton started practicing medicine in Pennsylvania in 1903. He has written medical papers since 1905 and, at the peek of his career, was entered in "World Biography" for outstanding contributions to medical science. He pioneered in the field of intravenous therapy and wrote the first published book on the subject.

Dr. James P. Murphy, St. Louis, has been elected president of the Deaconess Hospital medical staff succeeding **Dr. Robert N. Tindall.** Dr. Murphy, who has been a Deaconess staff member for 20 years, is an assistant clinical professor of internal medicine at the St. Louis University School of Medicine. **Dr. Charles H. Nicolai,** urologist, was named president-elect of the staff. **Dr. Katherine Crawford,** surgeon, was elected vice-president and **Dr. Harry L. Acker,** director of the hospital's rehabilitation service, was reelected secretary-treasurer. Executive committee department representatives will be **Dr. Sim F. Beam,** medicine; **Dr. Garland F. Smith,** surgery; and **Dr. Frederick W. Martin,** obstetrics-gynecology.

Dr. Harold Lankford, Mexico, has been appointed to the Executive Committee of the Physician's Staff at Audrain Hospital. It also was announced that **Dr. Sheldon Markowitz** of the Public Health Service Ecology Field Station in Columbia will join the Audrain Hospital in the near future to assist the hospital, physicians and nursing personnel with further development and improvements to the Special Care Unit.

Dr. Morris Johnson, Grandview, has announced the opening of his new medical office at **Dr. I. H. Clark**'s clinic. Dr. Johnson, who has been associated with the Grandview clinic for more than five years, is a reserve officer with the 442nd Military Airlift Wing at Richards-Gebaur and is state president of the Air Force Reserve Officers Association.

Dr. Richard A. Fraser has become an associate with **Dr. C. H. Appleberry** in Rivermines. Dr. Fraser served his three-year residency at the Kansas University School of Medicine, the Jackson County Hospital and the Menorah Hospital in Kansas City where he specialized in internal medicine and cardiology, followed this year with advanced studies at the University of Colorado.

This advertisement for TAO® (triacetyloleandomycin), published at the request of the Food and Drug Administration, replaces a recent one which the FDA regards as misleading.

The advertisement headlined "new evidence for TAO . . ." and emphasized that the drug is "for the frequently seen respiratory infection in the office and for a problem pathogen* in the hospital. *Staphylococcus aureus."

We emphasize that triacetyloleandomycin is to be used only for acute, severe bacterial infections where adequate sensitivity testing has demonstrated susceptibility to this drug and resistance to other less toxic agents. In view of the possible, but reversible, jaundice and hepatotoxicity of this drug, other less toxic agents should be used unless the organism is resistant to those agents, or in those cases where hypersensitivity precludes their use.

TAO is contraindicated in preexisting liver disease or dysfunction, and in individuals who have shown hypersensitivity to the drug.

The advertisement emphasized that no tooth staining has been reported after ten years of use of this antibiotic. The Food and Drug Administration regards this claim as an implied comparison suggesting that triacetyloleandomycin and tetracycline have a similar antibacterial spectrum of effectiveness, and that TAO has less toxic potential. Any such implication is not intended and, of course, would be invalid.

The advertisement referred to a research study in which patients were given triacetyloleandomycin prior to determining the susceptibility of the offending organism. Any suggestion that triacetyloleandomycin be used clinically without first determining susceptibility of the offending organism should be disregarded.

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TAO®(triacetyloleandomycin)
Brief Summary

INDICATIONS: Include streptococci, staphylococci, pneumococci and gonococci. Recommended for acute, severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic and resistance to less toxic agents.

CONTRAINDICATIONS: Contraindicated in pre-existing liver disease or dysfunction, and in individuals hypersensitive to the drug.

PRECAUTIONS: CAUTION: USE OF THIS DRUG MAY PRODUCE ALTERATIONS IN LIVER FUNCTION TESTS AND JAUNDICE. CLINICAL EXPERIENCE AVAILABLE THUS FAR INDICATES THAT THESE LIVER CHANGES WERE REVERSIBLE FOLLOWING DISCONTINUATION OF THE DRUG.

Not recommended for prophylaxis or in the treatment of infectious processes, which may require more than ten days continuous therapy. In view of the possible hepatotoxicity of this drug when therapy beyond ten days proves necessary, other less toxic agents should be used. If clinical judgment dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, and the drug should be discontinued at the first evidence of any form of liver abnormality. When treating gonorrhea in which lesions of primary or secondary syphilis are suspected, proper diagnostic procedures, including dark-field examinations, should be followed. In other cases in which concomitant syphilis is suspected, monthly serological tests should be made for at least four months. When used in streptococcal infections, therapy should be continued for ten days to prevent the development of rheumatic fever or glomerulonephritis. The use of antibiotics may occasionally permit overgrowth of nonsusceptible organisms. A resistant infection or superinfection requires reevaluation of the patient's therapy. In the event such occurs with this drug the medication should be discontinued, and specific antibacterial and supportive therapy instituted.

ADVERSE REACTIONS: Although reactions of an allergic nature are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions.

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Considerations for Health Care

(Continued from page 799)

must be able to make judgments and take actions promptly.

4. *On the initiative.* AMA should devote its principal public relations energies to fostering balanced, informed, widespread coverage of medicine and health care, rather than to a multiplicity of matters initiated by others.

5. *Augmented by voices of respected laymen.* Credibility is reduced by the appearance that the medical profession is isolated in its advocacy of its standards and policies. Information and advocacy from respected leaders in other fields, based on their knowledge and acceptance of the matters involved, will greatly enhance acceptance by the public. The understanding and support of such leaders of opinion should be sought actively.

6. *Selective.* Like the field of health care, AMA's public relations efforts cannot cover everything and do it well. Concentration should be on activating AMA's programs and priorities, with full knowledge this will mean passing up many things that appear to need attention but are not part of this constructive plan. Members of the profession must be made aware of the necessity for this selectivity.

In Memoriam

Marshall, Alfred H., M.D., Charleston, a graduate of St. Louis University, 1906; member of Semo County Medical Society; aged 84; died July 29, 1968.

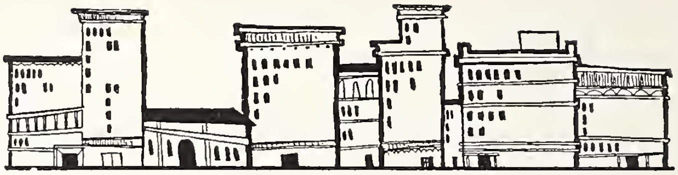
Kroft, Edward O., M.D., St. Louis, a graduate of Washington University, 1942; member of St. Louis Medical Society; aged 50; died August 2, 1968.

Epp, George J., M.D., St. Louis, a graduate of St. Louis University, 1920; member of St. Louis Medical Society; aged 71; died August 3, 1968.

Aiken, Richard F., M.D., Marshall, a graduate of Northwestern University, 1943; member of Saline County Medical Society; aged 50; died August 29, 1968.

Thurber, Claude M., M.D., Windsor, a graduate of College of Medical Evangelists, 1949; member of Henry County Medical Society; aged 50; died July 25, 1968.

From the Medical Schools



ST. LOUIS UNIVERSITY

Forty-nine members of the medical faculty received promotions effective September 1. Named full professor was Dr. Leo C. Senay, Jr., physiology.

Appointed associate professors were Drs. Ralph L. Biddy, psychiatry; Subir Kuma Bose, microbiology; Robert M. Donati, internal medicine; Ung Kee Hwang, anatomy; Gerhard H. Muelheims, internal medicine; Branislav Vidic, stomatology, anatomy; Camillus L. Witzleben, pathology; and Robert M. Woolsey, neurology.

Named associate clinical professors were Drs. James W. Bynum, oral medicine; James L. Donahoe, pediatrics; and Edward D. Kinsella, internal medicine.

Appointed assistant professors were Mrs. Mary A. Davis, pediatrics; and Dr. John B. Shields, radiology.

New assistant clinical professors are Drs. George Benson, psychiatry; John L. Bircher, radiology; Wilbur H. Lewis, ophthalmology; Thomas K. Mangelsdorf, psychiatry; Kenneth K. Michael, psychiatry; Lawrence A. Pilla, radiology; Robert B. Reynolds, psychiatry; Anwar Shah, ophthalmology; Walter R. Stafford, ophthalmology; Francis O. Trotter, Jr., radiology; Christopher G. Vournas, internal medicine; and Joe L. Zeffren, internal medicine.

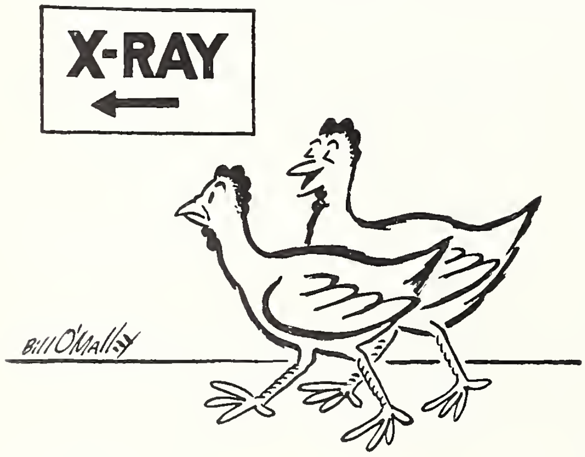
Appointed senior instructors were Drs. Yavuz Aykent, internal medicine; Stephen F. Bowen, Jr., ophthalmology; John F. Carter, internal medicine; Charles J. Cherre, radiology; Richard K. Danis, surgery; John T. Dolan, Jr., surgery; Thomas F. Egan, radiology; LeRoy L. Fink, surgery; Samuel J. Freund, surgery; Jerome J. Gilden, orthopedic surgery; Alvin Goldfarb, surgery; Cesar A. Gomez, surgery; Ronald E. Hoffman, orthopedic surgery; Watson W. Kaminsky, Jr., surgery; John G. Leahy, surgery; Thomas F. Maher, radiology; John M. McCarthy, internal medicine; James F. McCool, Jr. internal medicine; William L. Tomlinson, Jr., surgery; Roland A. Triska, pediatrics; Francis S. Walker, surgery; Thomas J. Weiler, surgery; and Edward M. Wittgen, Jr., orthopedic surgery.

A $173,747 grant awarded by the U. S. Public Health Service will offer continued support of a uterine cancer screening program at the St. Louis City Hospital, Homer G. Phillips, City Planning Agencies and Public Health Clinics. The one-year award became effective on July 1.

Dr. Denis Cavanagh, professor and chairman of the department of gynecology and obstetrics at the School of Medicine, is Project Director of the Program. Dr. Virgil Bleisch, associate professor of pathology at the Washington University School of Medicine, will be associated with Dr. Cavanagh.

Dr. Maurice Green, director of the School of Medicine's Molecular Virology Institute, attended the first International Congress for Virology in Helsinki, Finland on July 14-20. He presented two symposium papers by invitation. Following the meeting, he visited the University of Uppsala, Uppsala, Sweden; the Karolinska Institute in Stockholm; the National Institute for Medical Research and the Royal Postgraduate Medical School in London; and the Institut de Bologie Physico-Chimique in Paris.

St. Louis University Medical Alumni have



*"My dear, it's the **only** way to candle eggs!"*

been invited to a number of functions to be held in conjunction with the observance of Founder's Week. Dr. Robert H. Felix will host a reception from 4 PM to 6 PM at Cardinal Glennon Hall, 1402 S. Grand Blvd. on Oct. 24. A scientific program will be held Oct. 25 from 9:30 AM to 11:30 AM at the School of Medicine. Alumni reunion dinners will be held at the Stadium Club and other St. Louis area restaurants at 6 PM on Oct. 25. The president's reception and dinner dance will be held in the Sesquicentennial Room, Busch Memorial Center, Grand Blvd. at Laclede Ave. at 6 PM on Oct. 26.

MISSOURI UNIVERSITY

More than 180 handicapped children in Missouri received evaluation and treatment at the Multiple Handicap Clinic of the Medical Center at the University of Missouri–Columbia during the year ending June 30.

The clinic was established in 1964 to help plan for the future care of children who are mentally retarded, physically handicapped or both. It is supported by funds from the Children's Bureau of the Department of Health, Education and Welfare. The Bureau has recently granted $156,399, beginning July 1, 1968, for the continued operation of the Multiple Handicap Clinic during the year ending next June 30.

An imaginative and comprehensive program to improve the capabilities of hospital middle-management personnel throughout Missouri will be made possible through a W. K. Kellogg Foundation grant of $153,037 to the Graduate Program in Health Services Management of the University of Missouri–Columbia.

It is estimated that by the end of the three-year period of the grant, more than 275 middle managers will have utilized the three week summer sessions and monthly follow-ups thereto, and that the eight centers in the state will have been host to nearly 1,300 persons holding middle-management responsibilities in hospitals.

Dr. Thomas P. Weil, director of Graduate Studies in Health Services Management, which is a joint program of the School of Medicine and School of Business and Public Administration, announced that the new extension program will be coordinated by Laurence Johnson, recently appointed assistant professor of community health and medical practice and extension education.

Two staff members of the University of Missouri-Columbia Medical Center, Dr. Gwilym S. Lodwick and Dr. William Donegan, presented papers at the Sixth National Cancer Conference on September 18-20 in Denver. The conference is under the sponsorship of the American Cancer Society and the National Cancer Institute, a section of the National Institutes of Health.

Dr. Lodwick, professor and chairman of the department of radiology at the Medical Center, presented a paper entitled "Radiologic Evaluation of Skeletal Lesions with Computer Assistance." Dr. Donegan, surgeon at Ellis Fischel State Cancer Hospital and an assistant professor of surgery at the Medical Center School of Medicine, took part in a panel on breast cancer and discussed "Management of Primary Operable Breast Cancer Today."

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The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

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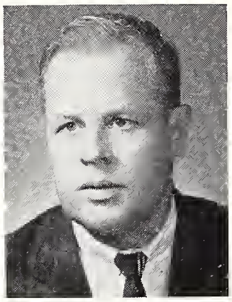
111 North Fourth St., St. Louis, Mo. 63102
(Eastern Missouri Administrators)

Altman-Singleton & Co.
114 W. 10th St., Kansas City, Mo. 64105
(Western Missouri Administrators)

Bob Carroll Joins MSMA Executive Staff

Bob Carroll, a veteran newspaperman and association executive, has joined the staff of the Missouri State Medical Association as an Executive Assistant.



Bob Carroll

MSMA Executive Secretary Raymond McIntyre said that Carroll will assist in legislative contact work in addition to working in communications with Association members and the news media, various organizations and agencies.

Carroll came to the Medical Association from the position of executive secretary of the Missouri Good Roads and Streets Association, a statewide organization working to promote more and better highways and streets.

A native of Clarksville, Mo., he received his Bachelor of Journalism Degree from the University of Missouri-Columbia in 1950. He also attended Central Methodist College in Fayette.

Prior to joining the Roads Associations, Carroll spent eight years as editor of the Hannibal (Mo.) *Courier-Post*. While in Hannibal, he served as president of the Chamber of Commerce for two terms and was chairman of the Missouri Associated Press Wire Editor's Association.

In addition to his editorship of the Hannibal newspaper, Carroll has been news editor of the Louisiana (Mo.) *Press-Journal* and sports editor and assistant to the editor of the Plainview (Tex.) *Daily Herald*. He served two years in the Army during the Korean War.

Carroll is married and the father of three daughters and a son. He is a member of the First Christian Church, Jefferson City Rotary Club and the Board of Directors of the Cole County United Fund.

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y, cardiac arrhythmias or symptoms of impending hepatic coma may
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Rupert B. Turnbull, Jr., M.D.
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Cleveland Clinic
Cleveland, Ohio

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1075 Park Avenue
New York, New York

Rudolph J. Noer, M.D., Surgeon
511 South Floyd Street
Louisville, Kentucky

Malcolm Peterson, M.D., Internist
600 South Kingshighway Boulevard
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TUESDAY, NOVEMBER 5, 1968

5:30 P.M.

SAINT LOUIS MEDICAL SOCIETY AUDITORIUM

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Scientific Showcase at AMA Clinical Convention

A showcase of scientific achievements and studies will be seen in Miami Beach, Fla. on December 1-4, when the American Medical Association holds its 22nd Clinical Convention.

A total of 125 scientific exhibits, covering a variety of medical disciplines, will be set up at the convention center. The displays will be available for viewing from noon Sunday until the session ends Wednesday afternoon.

Live color telecasts dealing with medical problems will be shown on Monday, Tuesday and Wednesday to complement the general session by providing additional educational information. The television programs will cover obstetrics-gynecology, cerebral vascular disease and amputee and stroke rehabilitation.

Also, approximately 30 medical motion pictures will be shown as part of the scientific program at the 22nd Clinical Convention.

At least five premiere showings are planned. Among these are "Shock and Recognition and Management" and "Granulomatous and Ulcerative Colitis: Diagnosis and Differential Diagnosis."

A film symposium, with panel discussion, is planned on "Problems of Chest Pain." A question-and-answer session will be included.

The Scientific Program for the 1968 Clinical Convention will be published in the October 21 issue of The Journal *of the American Medical Association.*

Continuing education will get big emphasis at the Clinical Convention. On December 2-4, postgraduate courses will be offered on diabetes, fluid and electrolyte balance and thyroid disease. Two one-hour sessions will be held daily.

Four breakfast roundtables, which have proved to be highly successful at past sessions to discuss many facets of medicine, are scheduled. In addition, there will be clinical workshops on eye problems, cardio-vascular disease, diabetes and office urology.

YOUR VOTE

IS NEEDED

ON NOVEMBER 5th!

Continuing Education Coming Events

Oct. 7-9	**46th Annual Fall Clinical Conference** Kansas City Southwest Clinical Society Hotel Muehlebach, Kansas City
Oct. 11	**Forum—"A Concerned Look at Abortion Laws and Problems"** Missouri Association of Social Welfare Sheraton-Jefferson Hotel, St. Louis
Oct. 16-17	**Conference—"Team Approach in Rehabilitation"** Continuing Education, M.U. School of Medicine Memorial Union, Columbia
Oct. 22-25	**Seminar—"A Comprehensive View of Cardiovascular Diseases"** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credits)
Oct. 23-24	**Seminar—"Treatment-Oriented Evaluation of the Mentally Retarded"** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Nov. 16-17	**20th Annual Scientific Assembly** Missouri Academy of General Practice Chase-Park Plaza Hotel, St. Louis
Nov. 22-23	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia

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AMA Posture on Public Comment

(The American Medical Association's House of Delegates adopted Report C of the Board of Trustees on "AMA Posture on Public Comment" at its meeting on June 16-20, 1968 in San Francisco. This report is being published in Missouri Medicine *as recommended by the AMA House.—*Ed.*)*

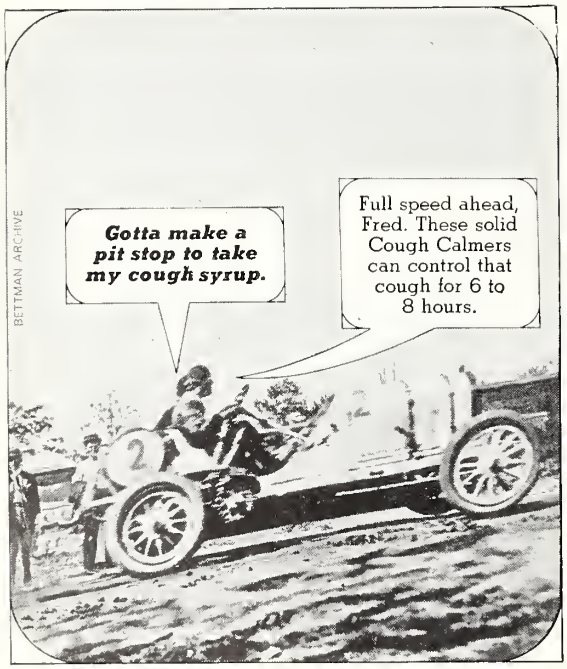
The Board is cognizant of the great increase in attention being given in the press and broadcast media to medicine and health care. Our profession is now the focus of one of America's greatest interests. It will constantly be in the spotlight, ending the professional reticence and privacy in which medicine functioned most of the time in the past.

Even though this interest is a tribute to the importance of medicine and the public's desire for its benefits, it brings with it the problems facing any person or organization with a key public position: much of the coverage is critical or displays a lack of understanding.

The Board of Trustees has consulted with AMA staff and public relations counsel on this increasingly important situation. The conclusions that have resulted from this intensive and thoughtful consideration are submitted now:

1. When statements about medicine are misguided or unfair, corrective statements will be issued promptly when the facts are available and an orderly response is possible.
2. We must recognize that the prominence and complexity of medicine in the United States today result in many limitations. Medicine is a constant subject of news and comment, much of which cannot be subject to a later response. Often our replies cannot be carried by the broadcast medium or publication, or at best will be much less prominent than the original coverage. Quite often a responsible statement cannot be issued until the facts have been obtained, and these may be scattered about the country or involve a local situation or require a great deal of time.
3. The frequency and complexity of these matters have increasingly diverted the officers and staff of AMA to reacting to what others do and say. This decreases the ability to work on constructive, ongoing activities that are vital to our future.
4. Staff is developing in written form the best possible anticipatory statements regarding all foreseeable circumstances. By having such matters thought out and documented when a need arises, we will be able to reduce the instances of surprise, decrease the time required for response and assure consistency in AMA statements on the matters.
5. We will concentrate on building a positive posture by getting understanding for medicine's functions and its positions on various considerations and by educating the press, broadcasters and opinion leaders. This will help forestall much misguided criticism and build a favorable climate that will inoculate against susceptibility to unfair criticism.
6. All state and county medical societies are urged to follow these same procedures.

You will see many instances in which AMA responds to public comment, many in which we have acted but our effectiveness will be in correcting the source and may not be visible immediately, and instances when judgment indicates a response should not be made. In each case the best judgment and skills will have been applied to the complexities of the situation.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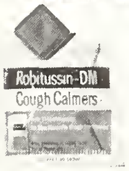

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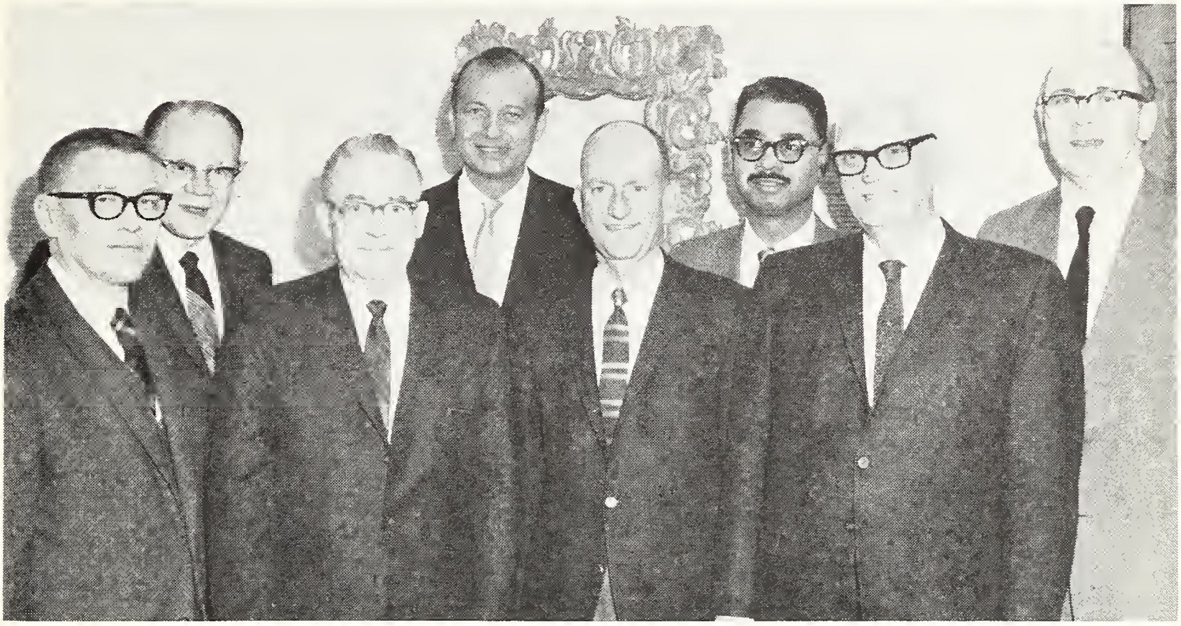

Members of the Missouri State Board of Registration for the Healing Arts are (l to r) Melvin Kasten, M.D., Cape Girardeau; Lee E. Davidson, D.O., Kansas City; Mr. John A. Hailey, secretary, Jefferson City; Harry S. Still, D.O., Macon; James T. Brown, M.D., Springfield; Jerome Williams, M.D., St. Louis; Shelby B. Hughes, M.D., Clinton; and William E. Powers, M.D., president, St. Louis. Members of the Board, which consists of five doctors of medicine and two doctors of osteopathy, are appointed by the Governor for terms of four years.

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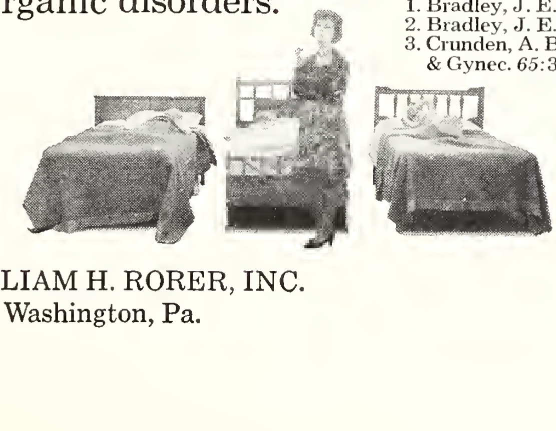
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



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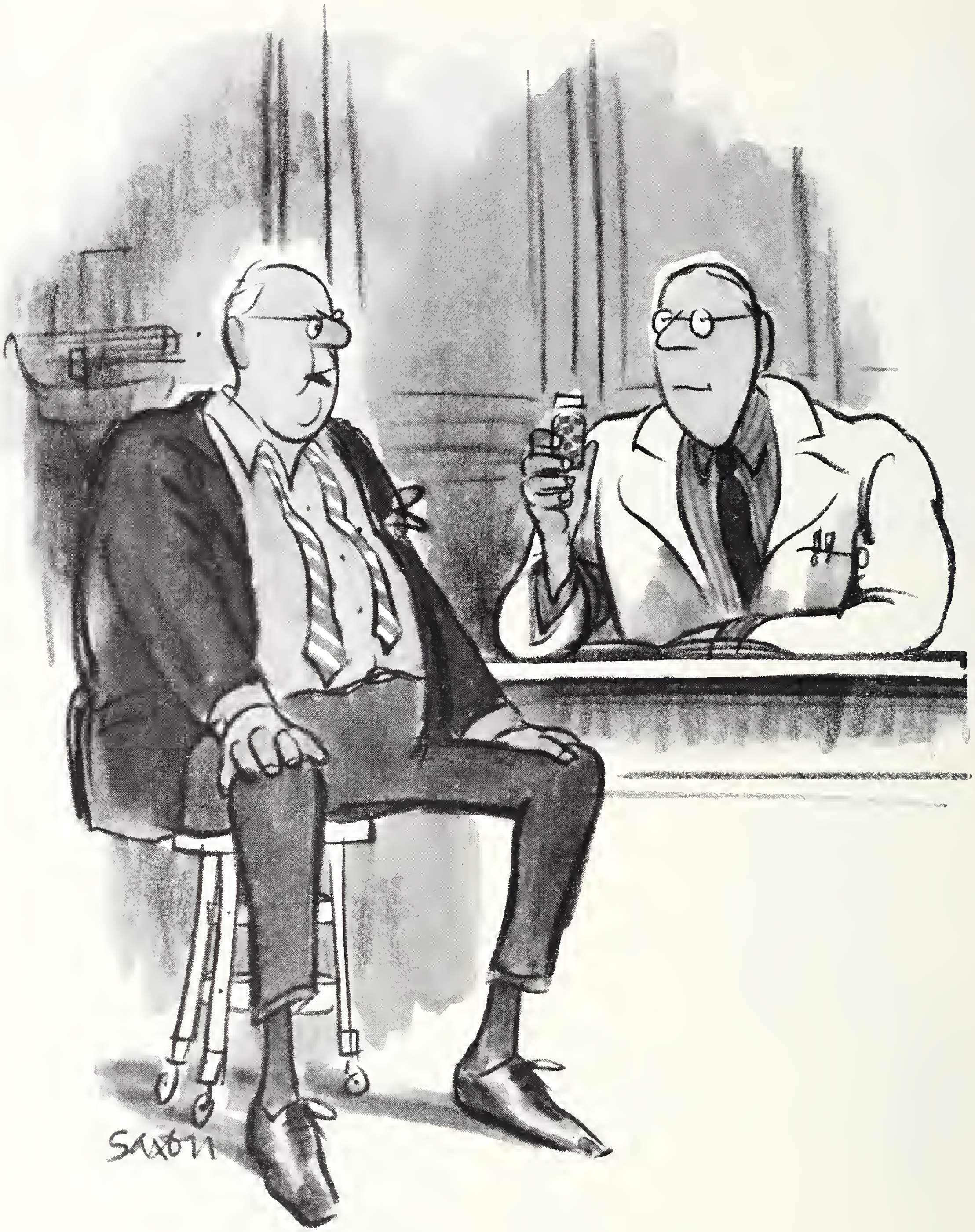

"Upper respiratory infection! I thought everything was a 'virus' these days?"

Volume 65, Number 10—October, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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J. M. MARTT, M.D., L. L. POLITTE, M.D., *Columbia, and*
J. S. SANDERS, M.D., *Jefferson City*

Some Coronary Heart Disease Risk Factors In Young Male Adults

Coronary heart disease begins early in life and may be quite advanced by the age of 25 years.[1-3] If the physician is to detect the disease prior to the appearance of clinical symptoms, which of themselves are indicative of advanced disease, and at a stage when corrective measures would seem most likely to prove beneficial, then he must look for it early in adult life. There is abundant evidence from numerous investigations demonstrating an association between coronary atherosclerosis and certain blood chemical abnormalities of which the serum lipids have received the most emphasis.[4-8] Such abnormalities have been termed "risk factors," signifying a factual relationship rather than a necessarily causal one. This study is concerned with the survey of a group of healthy young adult students to determine the presence and incidence of some of these risk factors.

Materials and Methods

A total of 205 volunteer university students were selected for study. Their ages ranged from 18 to 39 years with a mean age of 25 years. There were 21 women who were subsequently excluded from the study because of their small representation. Following an overnight fast, venous blood was collected and the serum was analyzed as follows: serum turbidity in optical density units (OD units), cholesterol in mg/100 ml, uric acid in mg/100 ml and triglycerides in mg/100 ml. In instances where subjects were not fasting, determinations were not made for triglycerides or serum turbidity. Serum cholesterol was determined by the modified method of Zak.[9] A pooled serum standard of known concentration and a commercial standard (Dade Laboratories) served as controls with each set of determinations. Serum uric acid was measured by an enzymatic colorimetric technique[10]

Noting that coronary heart disease begins early in life and may be advanced by the age of 25 years, the authors conducted a study to determine the presence and incidence of "risk factors" or certain blood chemical abnormalties associated with coronary atherosclerosis in a group of young men. The resulting information may serve to identify young men who are at risk and enable the physician to take corrective measures early in their adult life. Doctor Martt is Professor of Medicine and Director of the Heart Station at the University of Missouri Medical Center. Doctor Politte, who was an Instructor of Medicine at the University of Missouri School of Medicine, is now serving in the U. S. Army. Doctor Sanders is in the private practice of medicine in Jefferson City. This investigation was supported by Missouri Heart Association Grant-In-Aid No. 5684.

TABLE 1

LABORATORY VALUES FOR ALL SUBJECTS

Age YEAR	*Number Subjects*	*Cholesterol** MG/100 ML	*Uric Acid** MG/100 ML	*Triglycerides** MG/100 ML	*Serum Turbidity* OD UNITS†
18-19	55	196 ± 32	5.4 ± 1.2	‡	‡
20-29	106	203 ± 33	5.2 ± 1.4	85 ± 44	0.104 ± .05
30-39	23	222 ±	4.8 ± 1.4	111 ± 63	0.111 ± .06
Total	184				

* Mean and standard deviation.
† Optical density units.
‡ Too few subjects in fasting state to be meaningful.

Normal Values:
Total serum cholesterol—120-250 mg/100 ml
Serum uric acid—1.0-6.5 mg/100 ml
Serum triglycerides—20-150 mg/100 ml
Serum turbidity—0.12 optical density units or less

and triglycerides by the method of Van Handel and Zilversmit.[11] Serum turbidity was determined with a 10 ml cuvette in a spectrophotometer (B & L Spec 20) at a wave length of 650 mu using distilled water as a reference blank.

All measurements were determined in duplicate and were reanalyzed if variance between samples exceeded 10 mg/100 ml for cholesterol or triglycerides and 0.20 mg/100 ml for uric acid. Technical error of the various procedures was determined from the duplicate measurements and calculated by a standard equation.[12] These were as follows: cholesterol, ± 3.26 mg/100 ml; triglycerides, ± 4.26 mg/100 ml; uric acid, ± 0.06 mg/100 ml; serum turbidity, ± 0.002 OD units. The significance of the differences between various mean values was determined by the Student t test using $p = 0.05$ as a minimal level of significance.[12]

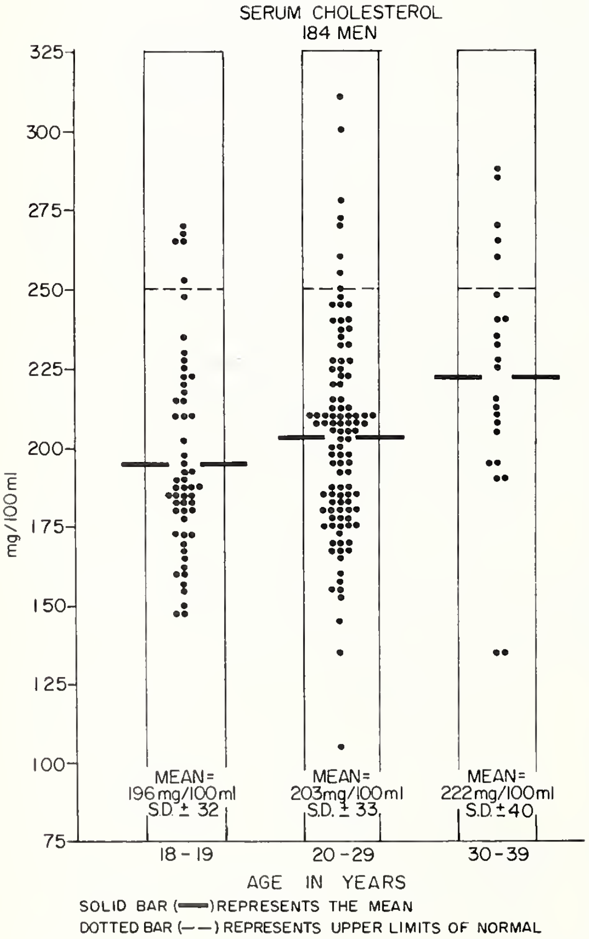

Fig. 1 Values for serum cholesterol in 184 healthy young men. Note the increasing mean value with age.

Results

The mean values for all measurements are shown in Table 1.

Total Serum Cholesterol

The obtained values for cholesterol are in agreement with those of other studies[6, 13] (Fig. 1). Thirteen subjects less than 30 years of age (8%) had a level of 250 mg/100 ml or higher, a value which we have accepted as the upper limit of normal. Five of the 23 men (22%) more than 30 years of age had values above this.

Triglycerides

The values for fasting serum triglycerides are shown in Fig. 2. Very few subjects less than 20 years of age had this measurement performed because of failure to fast for at least 12 hours prior to blood sampling. Consequently, a meaningful comparison of triglyceride concentrations in this youngest group could not be made. For subjects in the third decade, the mean concentration of triglycerides was 85 mg/100 ml (± 44 SD) and rose to a mean of 111 mg/100 ml (± 63 SD) for those in the fourth decade. The difference probably is not significant ($p = 0.05$).

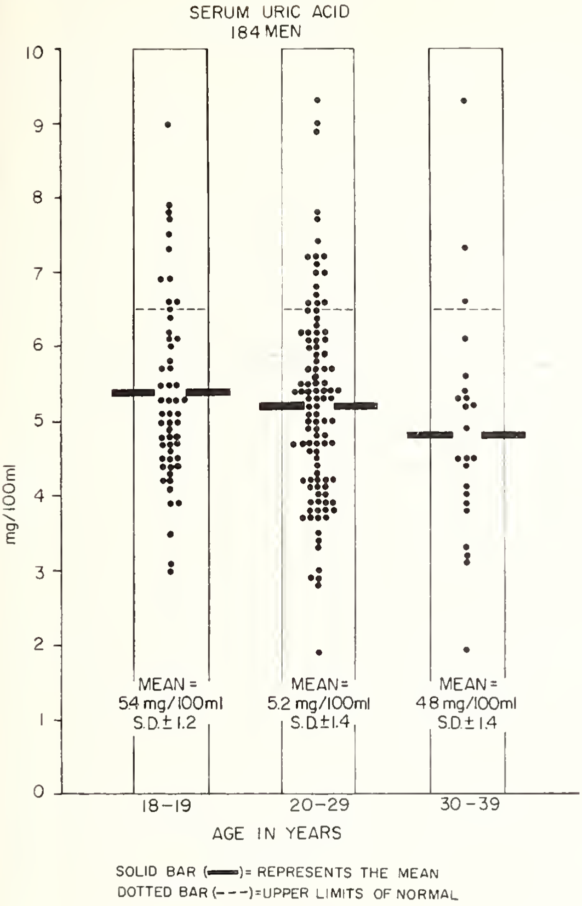

Fig. 2 Fasting serum triglycerides values in 129 healthy young men. The increasing mean concentrations with age is probably not significant, p = 0.05.

Of the 106 subjects between 20 to 29 years of age, six (5.7%) had a serum triglycerides in excess of the normal limit of 150 mg/100 ml, whereas 22% of men between 30 to 39 years (five of 23) had elevated levels.

Uric Acid

The mean values for 184 men separated by decades of life are shown in Fig. 3. In men under 20 years of age, this was 5.4 mg/100 ml (± 1.2 SD). For those over 30 years of age, it was 4.8 mg/100 ml (± 1.4 SD). The significance of the difference is p = 0.03. Noteworthy is the number of individual values in excess of 7.0 mg/100 ml which occurred in approximately 10% of subjects in each decade.

Serum Turbidity

The optical density values of fasting sera from 129 men are shown in Fig. 4, and the correlation between serum turbidity and serum triglyceride concentration is shown in Fig. 5. The correlation coefficient R is .437 which is probably not significant (p = 0.05).

Discussion

It has been shown that the risk to men for developing clinical coronary heart disease at less than 50 years of age increases significantly in those with a total serum cholesterol concentration above 250 mg/100 ml.[4-7, 14] In our total group of 184 young men, 17 (9%) had a serum cholesterol in excess of this value, the highest being 310 mg/100 ml.

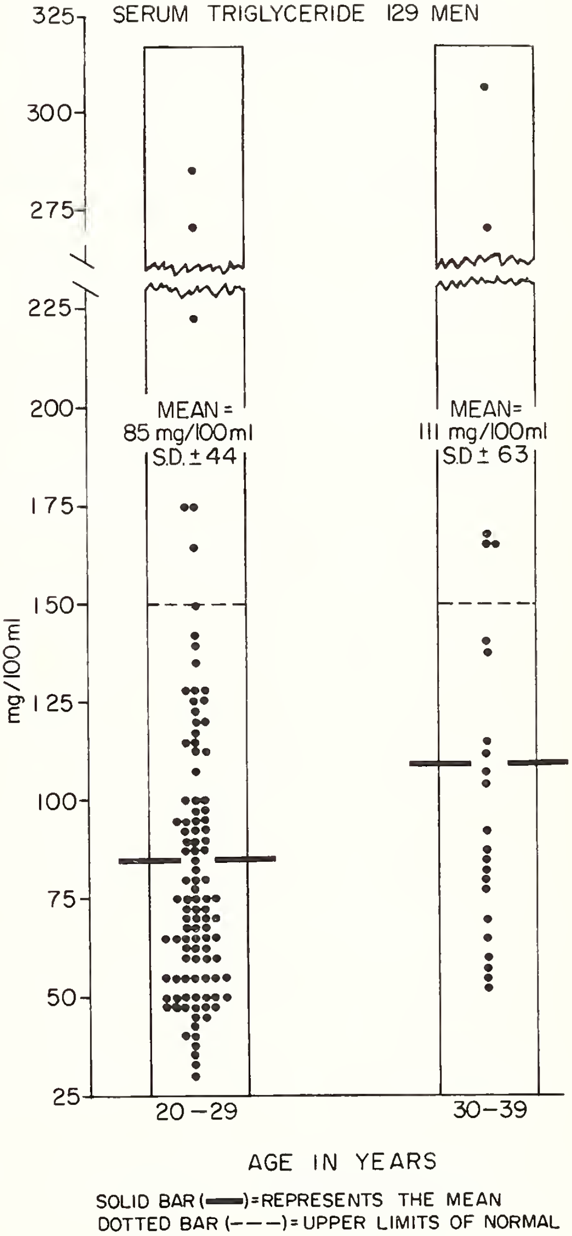

Fig. 3 Results of serum uric acid determinations in 184 healthy men. The changing mean concentrations with age is not significant, p = 0.03.

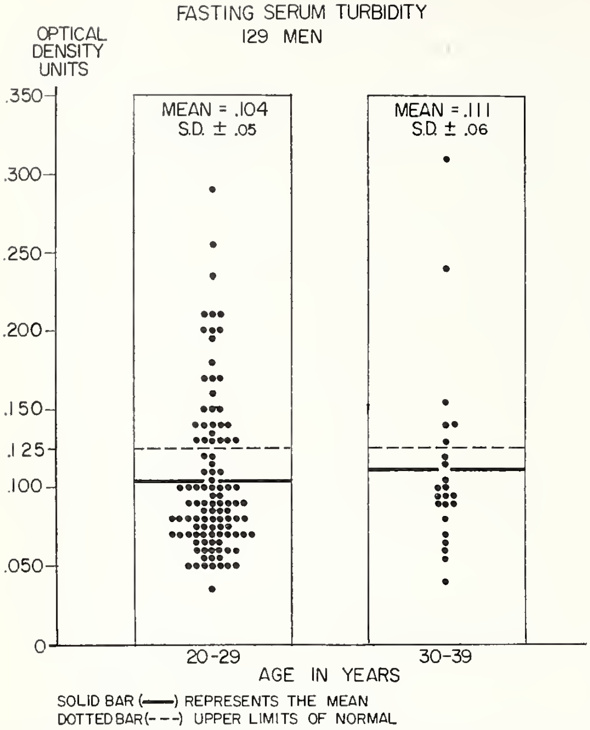

Fig. 4 Individual results of optical density of fasting blood serum in 129 healthy men.

Also, increased concentrations of plasma triglycerides have been demonstrated to be associated with coronary heart disease and myocardial infarction.[5, 15] This observation seems especially significant in men less than 50 years of age.[5] Six of the 106 men (5.7%) who were less than 30 years of age had elevation of fasting serum triglycerides to 150 mg/100 ml or higher, an incidence agreeing with reports by others.[16] Of the 23 men more than 30 years of age five (22%) had values in excess of the normal.

A relationship between hyperuricemia and coronary heart disease has been observed, although the implication of purine metabolism in the pathogenesis of atherosclerosis seems especially obscure.[8, 17] Recent studies have shown the presence of higher concentrations of serum uric acid with certain personality traits, the features of which are similar to those observed in the "behavior pattern type A" described by Friedman and Rosenman and which they observed to be commonly associated with symptomatic coronary heart disease.[18, 19] Hyperuricemia may reflect an impairment of glucose tolerance and not uncommonly accompanies hyperglyceridemia. This association may serve to explain the frequency of increased serum uric acid levels in patients with coronary atherosclerosis in view of the predisposition of such subjects to diabetes mellitus and to elevation of fasting serum triglycerides.[18, 20, 21] In 161 men less than 30 years of age (in whom serum uric acid was determined), we found 20 (12%) to have values of 7.0 mg/100 ml or higher. This incidence of hyperuricemia in young males has been described by others.[22]

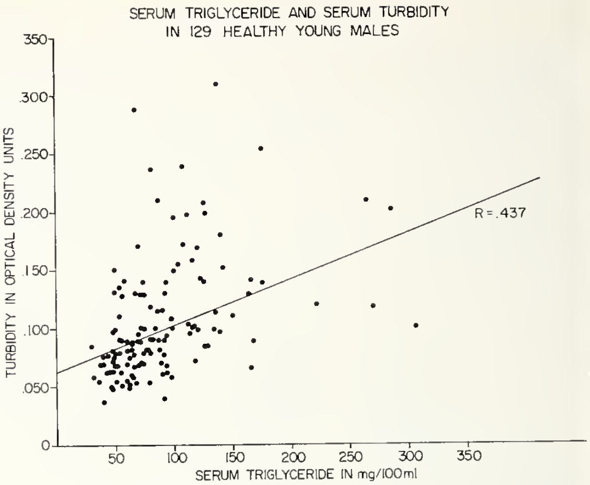

Fig. 5 Relationship of fasting serum triglycerides to serum optical density. The correlation coefficient is 0.437 which is statistically not significant, $p = 0.05$.

Fasting serum turbidity was determined in this study because of the association of a turbid or "milky" serum with elevated plasma levels of very low density lipid particles.[13] Such very low density particles consist predominantly of triglycerides and, therefore, a close correlation should exist between the two measurements. As can be seen in Fig. 5, such an association is present although it is far from precise. All subjects with a serum triglycerides greater than 160 mg/100 ml had a serum turbidity of 0.125 OD units or above. However, the majority of the subjects having a serum turbidity of above 0.125 OD units revealed a normal triglyceride concentration.

COMMENT

It should be emphasized that the use of the term "risk factor" as it applies to coronary heart disease does not necessarily indicate a causal relationship. Rather, it implies an association of "factors" with the disease to a degree not observed in a control population.[23] The number of such known "risk factors" is increasing and now includes cigarette smoking,[24] personality traits,[19] physical activity,[25] systemic blood pressure,[4] glucose intolerance,[26] hypercholesterolemia,[7] hypertriglyceridemia,[15] hyperuricemia,[8] genetic and constitutional factors,[26] social and cultural background[27] and, probably, obesity.[23]

It is apparent that, at the present stage of our knowledge, the most appropriate therapy for coronary heart disease lies in its prevention. This is emphasized by the mortality figures from acute myocardial infarction which of themselves preclude any therapeutic efforts for the one third of patients who succumb with the initial attack.[25] Preventive measures would seem to consist simply of (1) the detection of patients at risk by a search for known "risk factors" at a young age and (2) the correction or removal of those factors.

Institution of measures designed to control the risk factors amenable to modification at an early age (20 to 35 years) may be preferable to delaying preventive or therapeutic measures until a later age when coronary atherosclerosis is far advanced.

SUMMARY

Two-hundred-and-five volunteer university students whose mean age was 25 years were observed for some of the known "risk factors" for coronary heart disease by the measurement of serum total cholesterol, triglycerides, uric acid and fasting serum turbidity. Of 161 men less than 30 years of age, 13 (8%) had a total cholesterol concentration in excess of 250 mg/100 ml. In 106 men of similar age six (5.7%) had a fasting serum triglyceride value above the accepted normal of 150 mg/100 ml. One fourth (25%) of 184 subjects had a serum uric acid concentration in excess of 6.0 mg/100 ml. The turbidity of fasting serum was shown to be a rough index of triglyceride concentration. It is suggested that the elevated concentrations of serum cholesterol, serum triglycerides and serum uric acid which were observed in a significant percentage of young subjects may represent a manifestation of a predisposition to coronary atherosclerosis and may serve to identify young men who are at risk.

Acknowledgment: The authors wish to express their appreciation to Dr. Diane Brukardt of the University of Missouri Student Health Service for her assistance and cooperation in this study.

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Plan now to attend the 20th Annual Scientific Assembly of the Missouri Academy of General Practice on November 16-17 at the Chase-Park Plaza Hotel in St. Louis. An outstanding scientific program will feature eminent speakers lecturing on subjects of practical interest to the general practitioner. Round-table discussions also are being planned. The agenda will include special entertainment for the ladies and the annual President's instaliation banquet for members, wives and guests. The scientific program will be acceptable for ten accredited AAGP hours.

A Radiological Quiz

Etiologically Specific Staghorn Calculi

M. WENDELL DIETZ, M.D.,* *Springfield*

Ordinarily, the roentgenology of staghorn renal calculi conforms to the cliche, "When you've seen one, you've seen them all." This exhibit presents two diverse varieties of staghorn calculi with singular individual features typifying the underlying renal disease. Thus, these cases permit an astute clinician to diagnose several bilateral renal abnormalities without excretory, retrograde or vascular urograpy. For each of these staghorns, identification in a survey film only is in itself characteristic.

Pertinent historical data elicited from both patients was nonspecific and essentially identical: onset in mid-adult life of costovertebral pain, occasional hematuria and recurring urinary tract infections. Both patients had laboratory evidence of progressive azotemia.

After correlating the brief description of the roentgen features of each staghorn with the pathologic changes of the contralateral noncalculous kidney, note your diagnosis below each pair of prints before turning to page 824 for the answers to this quiz.

Case I

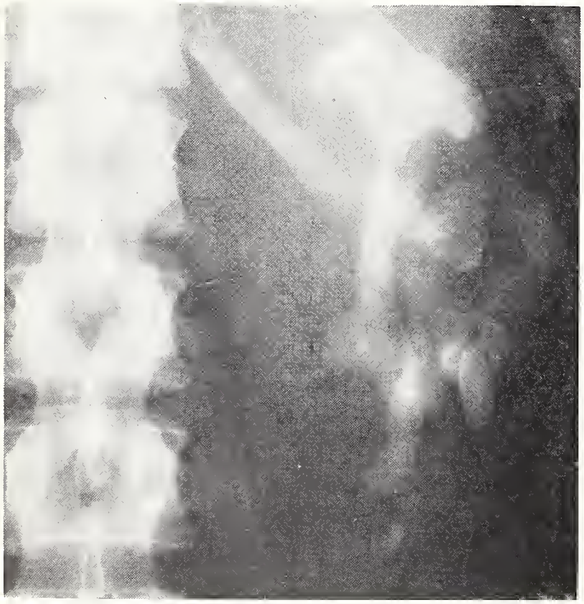

Fig. 1. This magnification view of the left kidney was reproduced from a survey abdominal roentgenogram. An extensive staghorn calculus occupies almost the total collecting system of a markedly enlarged kidney. Moreover, this is certainly no normal caliceal pattern: dilated calices are elongated and compressed with oval and crescentic distortions.

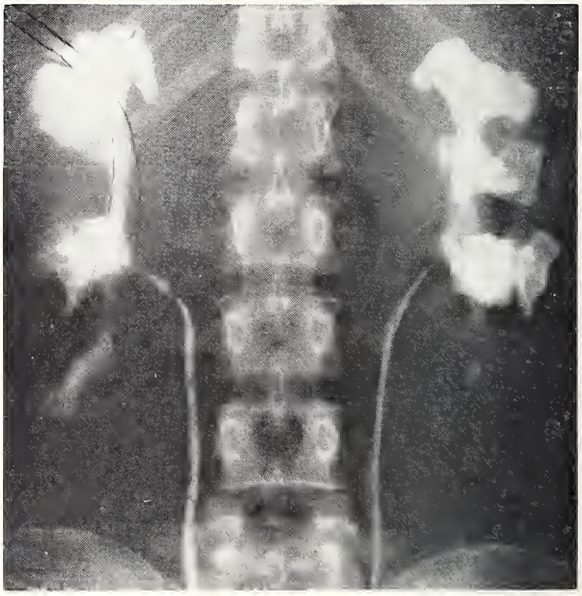

Fig. 2. A bilateral retrograde pyelogram discloses that the kidneys are symmetrically increased in size. Right caliceal distortions correspond to those of the huge left-sided staghorn stone. Neither the degree of caliectasis nor the compression deformities are uniform in either collecting system.

My diagnosis is ....

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* Director, Department of Diagnostic Radiology, Burge-Protestant Hospital; Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

Case II

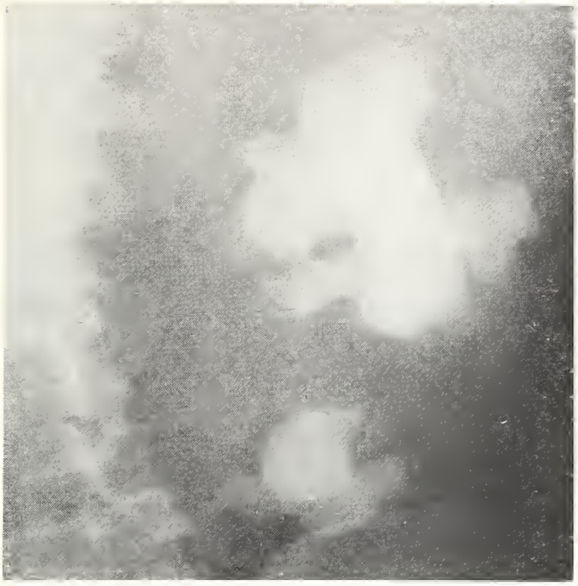

Fig. 3. A magnification view of the plain film appearance of this left staghorn calculus indicates massive kidney enlargement. The most striking feature of the stone concerns the medial relationship of a majority of the calices to the laterally directed pelvis. Thus, this kidney is rotated on its longitudinal axis. The inferior pole is inclined toward the midline.

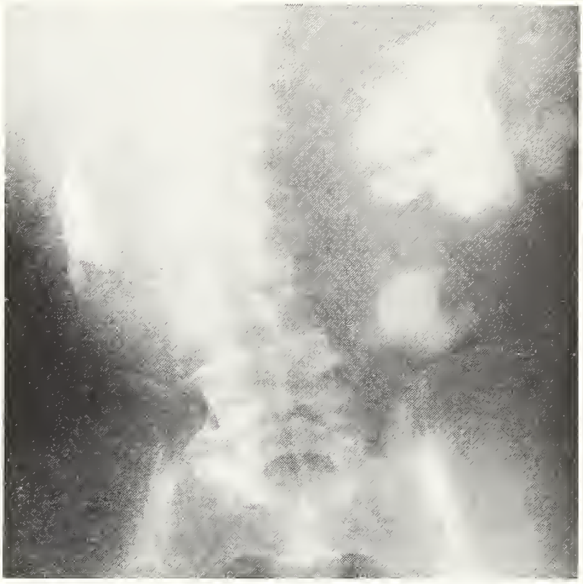

Fig. 4. An excretory urogram demonstrates that the right noncalculous kidney is smaller and less rotated than the left. The inferior pole of each kidney is tilted medially (lumbar scoliosis minimizes this deviation). This film reveals not only a decided medial location, but also, a low position of each kidney.

My diagnosis is ....

Aids to DIFFERENTIAL DIAGNOSIS

Characteristics of these staghorn stones (extensive branching calcifications filling the entire pelvicaliceal system) readily exclude numerous varieties of renal lithiasis. Factors such as size, shape and location eliminate from consideration the calcific deposits of renal tubular ectasia, papillary necrosis or glomerulonephritis. Obviously, these staghorns are not the calcifications of a renal neoplasm, of tuberculous granulomata or of a renal artery aneurysm. Furthermore, staghorns rarely occur in hyperparathyroidism, sarcoidosis and Cushing's disease. Neither the "milkstone" of a caliceal diverticulum nor the "tramline" calcification of renal infarction simulate the staghorn pattern.

In the absence of nephrocalcinosis, staghorns are unlikely to develop in either renal tubular acidosis or idiopathic hypercalciuria. The history of both patients reduces from the list of possibilities the calculi of immobilization, the milk-alkali syndrome or cystinuria.

Many of the abnormalities innumerated above produce metastatic calcifications. In the metastatic type, the abnormal deposition of calcium salts is associated with their increase in the blood. Thus, stones form in healthy kidney tissue as a result of faulty renal excretion of these salts.

The nonmetastatic type of calcification occurs in renal tissue which is the site of a localized or diffuse lesion, like fatty degeneration, hyalinization, inflammation, suppuration or necrosis resulting from a toxic, circulatory, inflammatory or metabolic process. A pathologic lesion is present in the kidney, and hypercalcemia is not essential.

ANSWERS TO STAGHORN CALCULI QUIZ

Case I. Radiographic criteria of POLYCYSTIC DISEASE OF THE KIDNEY are nicely portrayed by Figs. 1 and 2:

Bilateral renal enlargement
Elongation and enlargement of calices
Crescentic deformities of calices due to pressure of adjoining cysts

(A nephrotomogram accentuates the outline of the nonfunctioning cyst against surrounding functioning and, therefore, opacified renal parenchyma. An arteriogram demonstrates characteristic vascular displacement phenomena.)

Polycystic kidneys are particularly prone to complicating disease; renal calculus formation is not uncommon. Such an immense staghorn calculus, reflecting the typical polycystic disease pattern, is a urologic rarity, however. Only four such cases were located in a review of the literature.

Several interesting facets of this bizarre congenital syndrome include the following:

A pronounced hereditary tendency
Concomitant congenital anomalies:
  Hepatic, splenic and/or pulmonary cystic disease
  Cerebral, renal or splenic aneurysm
A notable absence of communication between the renal pelvis and the cysts and between the cysts themselves
A high instance of hypertension
A ten year life expectancy after onset of symptoms in adulthood

Case II. The roentgen signs of contralateral renal fusion shown in Figs. 3 and 4 typify the most frequent fusion anomaly: HORSESHOE KIDNEY. Lower pole fusion across the midline by an isthmus of parenchymal or fibrous tissue results in the following:

Medial positions of kidneys overlying lumbar spine
Medial inclination of lower poles
Low position of kidneys
Kidney malrotation with calices presenting medially or posteriorly

Urinary stasis calculi are frequent. Impaired drainage of the pelvicaliceal system may be due to an anomalous ureteral distribution or to adhesions between the ureter and isthmus. A staghorn stone of these dimensions is unusual, but not rare.

Horseshoe kidney occurs twice as often in males as in females. Additional urogenital and, also, nonurologic anomalies frequently coexist.

As part of a national effort to reduce infant mortality in the United States, the Health Services and Mental Health Administration has announced the establishment of two pediatric pulmonary centers. The centers will seek to develop methods of improving care for babies and children suffering from respiratory disease.

"Respiratory diseases are a major problem for infants," said Dr. Frank W. Mount, Chief of the Administration's Chronic Respiratory Diseases Control Program. "Of 93,000 babies who died in 1965, 31% or 29,000 died because of respiratory disease. Most of these deaths occurred during the first 28 days after birth." During this same year, 14 other countries, including Sweden, the Netherlands and Japan, had lower infant mortality rates than the U. S.

The two pediatric pulmonary centers—one in Philadelphia, the other in Los Angeles—will seek to develop and improve the quality and availability of care for children with respiratory disease. "We believe a special emphasis on pediatric respiratory disease will save the lives of many of our infants," Dr. Mount said.

R. G. CUTLER, M.D., F. X. PALETTA, M.D. *and*
R. DONALDSON, M.D., ***St. Louis***

Late Manifestations of Basal Cell Carcinoma

Case Reports

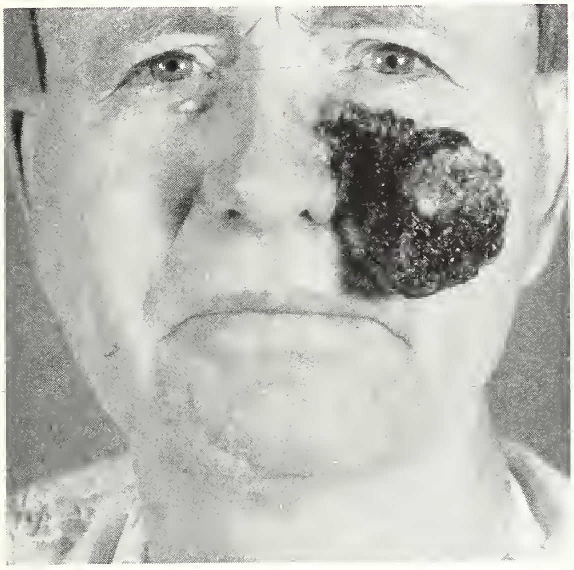

Fig. 1-A Extensive untreated basal cell carcinoma.

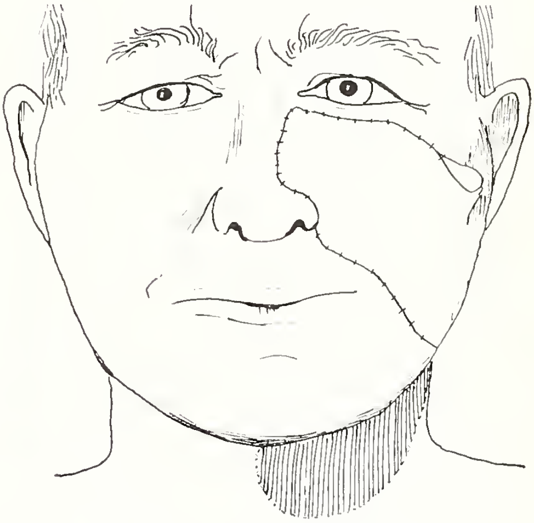

Fig. 1-B Diagram of rotation flap from neck.

NEGLECTED AND RECURRENT BASAL CELL CARCINOMA may cause major problems in management, serious disability and even death of the patient. Suspected lesions should be treated with respect and dispatch. The following case histories are instructive.

The first case illustrates an advanced untreated basal cell carcinoma.

CASE REPORT

Case # 1. This 65-year-old man presented with a lesion of the naso labial fold of 17-years' duration (Fig. 1-A). Biopsy showed basal cell carcinoma limited to soft tissues. This bulky lesion required extensive excision and rotation of a neck flap for coverage (Figs. 1-B and 1-C).

One occasionally sees the advanced, slowly growing, slowly infiltrating basal cell carcinoma. Surgical ablation would have been much easier 17 years ago. Recurrence can be detected earlier beneath split thickness skin grafts than beneath pedicle flaps. Exposure of denuded bone and nasal cavity necessitated use of a flap in this case.

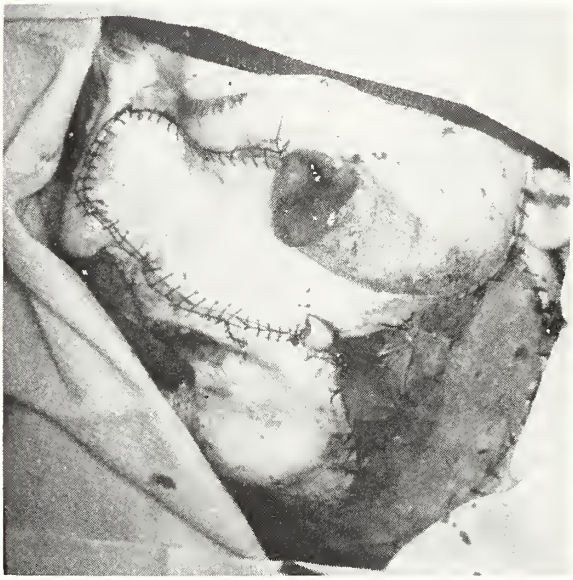

Fig. 1-C Resection with flap rotation.

A small basal cell carcinoma apparently incompletely excised eventually led to the death of the next patient.

Case # 2. This man was 52 years old when he first noted a lesion on his cheek (Fig. 2-A). Excision biopsy showed basal cell carcinoma. Eleven years later, a local recurrence was excised with a split thickness skin graft. Five years later, the patient had an extensive local recurrence (Fig. 2-B). A block resection of the right cheek and zygoma was carried out. A forehead flap was used for coverage (Fig. 2-C). Three years thereafter, a recurrence was noted (Fig. 2-D). The patient's fragile cardiac status at this time prevented further operations, and radiation therapy was carried out. Radiation therapy was complicated by radionecrosis of orbital bones, chronic osteomyelitis and orbital pain eventually requiring exenteration. At age 74, the patient died of septicemia and a brain abscess. Persistent basal cell carcinoma was present at the time of death.

This patient demonstrated a 22-year-history of a persistent, slow growing basal cell carcinoma. The flap, which was necessary for reconstruction of the lower lid and coverage of bone, masked the recurrence. The cause of death in uncontrolled basal cell carcinoma of the head is usually due to local extension and brain abscess.

The next case illustrates problems in diagnosis and treatment of basal cell carcinoma of the scalp.

Case # 3. A Negro man had an intermittently draining cyst of the scalp since a local injury in 1945. The cyst was incised and drained without biopsy in 1963, 1964 and 1965. When seen at the Veteran's Administration Hospital in St. Louis in 1966, a poorly healing wound with scar fixation to underlying periosteum was noted. Biopsy revealed basal cell carcinoma. Wide local excision, including the outer table of bone and rotation of a scalp flap, was carried out (Fig. 3). Examination two years later fails to reveal any evidence of recurrence.

Basal cell carcinoma is uncommon in the Negro. However, any nonhealing ulcer of this character deserves biopsy. Basal cell carcinomas of the scalp may spread extensively in the deep areolar tissue layer due to the unyielding layer

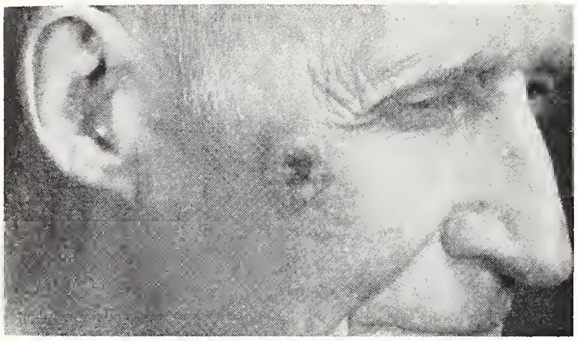

Fig. 2-A Small, recurrent basal cell carcinoma.

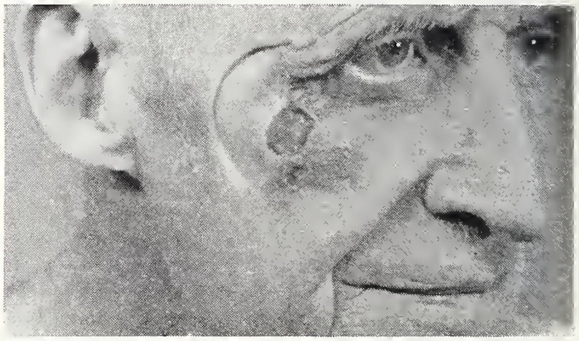

Fig. 2-B Recurrence of margin of skin graft.

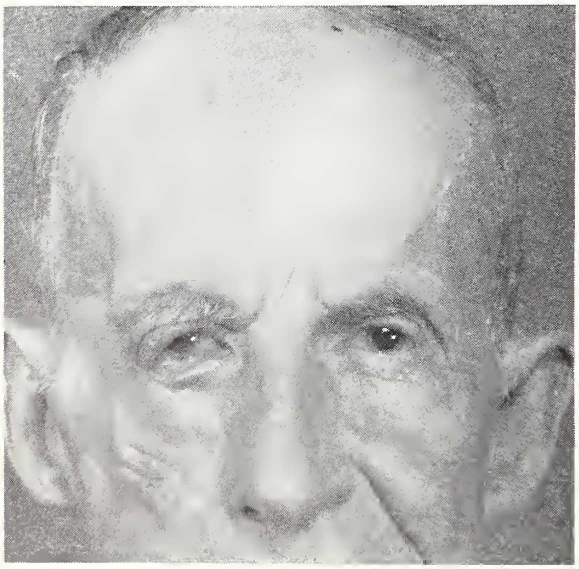

Fig. 2-C Forehead flap coverage following extensive local resection.

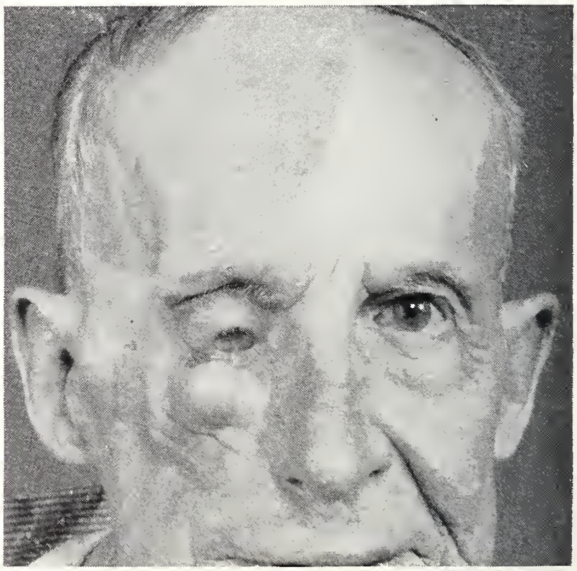

Fig. 2-D Recurrence beneath the forehead flap inferior to the right orbit.

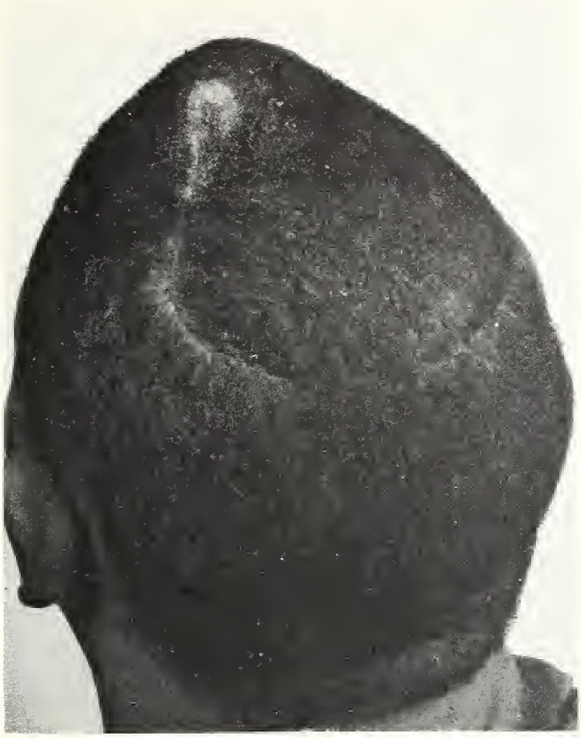

Fig. 3 Rotated flap covering resected lesion of scalp and outer table of bone.

overlying galea. Wide local excision is, therefore, indicated.

The next case is an example of metastases secondary to a baso-squamous type of carcinoma.

Case # 4. The patient first noted a lesion on his neck in 1954. Excision biopsy in 1956 revealed basal cell carcinoma with some squamous features. Healing was poor and intermittent drainage occurred thereafter. The patient received no further care until 1960 when he was first seen at the St. Louis Veteran's Hospital. At that time, an ulcerated small mass was present in the left side of the neck. Wide local excision was carried out and the microscopic sections were read as squamous cell carcinoma. In 1963, a local recurrence was noted and left radical neck resection was carried out. The microscopic sections were read as basal cell carcinoma. In 1966, the patient developed right hip pain and weight loss. X-rays showed radiolucencies of the ilium and needle aspiration demonstrated carcinoma. In 1967, multiple skin lesions developed. There is still no evidence of local recurrence.

Review of the microscopic sections demonstrated this to be a baso-squamous carcinoma. Distant metastases had developed prior to the radical neck resection since there is no evidence of local recurrence. Baso-squamous carcinoma should be regarded as aggressive as squamous cell carcinoma. Although the local disease was controlled, the long delays in treatment permitted distant metastases to develop.

Basal cell carcinoma is the most common skin cancer and can be eradicated by early complete excision. Neglected and recurrent basal cell carcinoma, however, may cause major problems in management, serious disability and even death of the patient. The authors present five detailed, instructive case reports of this carcinoma in various stages and locations. Doctors Cutler, Paletta and Donaldson are from the Department of Surgery, Section of Plastic Surgery, St. Louis University School of Medicine and the Veterans Administration Hospital.

The next case illustrates the danger of inner-canthal lesions.

Case # 5. This man first noted a lesion of the inner canthus in 1940. Biopsy demonstrated basal cell carcinoma. The patient was given radiation therapy. In 1949, the patient developed extensive local recurrence (Fig. 4-A), but he refused exenteration. In 1953, he finally consented to operation and exenteration was carried out, including the orbital rim and frontal sinus (Fig. 4-B). The wounds were left to granulate, and raw surfaces were subsequently skin grafted. A moulage prosthesis was fabricated (Fig. 4-C). In 1961, the patient died of unrelated causes.

Basal cell carcinomas are likely to recur when located in the periorbital region.[1] Lesions adjacent to bone sometimes extend along periosteum, through bony foramina, along marrow cavities and along paths of least resistance. Extensive basal cell carcinomas sometimes extend along the facial or trigeminal nerve sheaths.[2] Graft rather than flap coverage is preferable when the chances of recurrence are high.

Discussion

Basal cell carcinoma is the most common skin cancer.[3] It can be easily eradicated by early complete excision. Inadequate surgical margins, however, may leave persistent neoplasm.[4] When patients are lost to follow-up, recurrences are discovered after years of delay. The average duration of neoplasm was 19 years in the patients presented in this paper. Conway[5] and others report that basal cell carcinoma of long duration or secondary to irradiation may cause distant metastases. Baso-squamous cell carcinoma, as evidenced in this paper, also may cause distant metastases. The usual cause of death from uncontrolled basal cell carcinoma of the

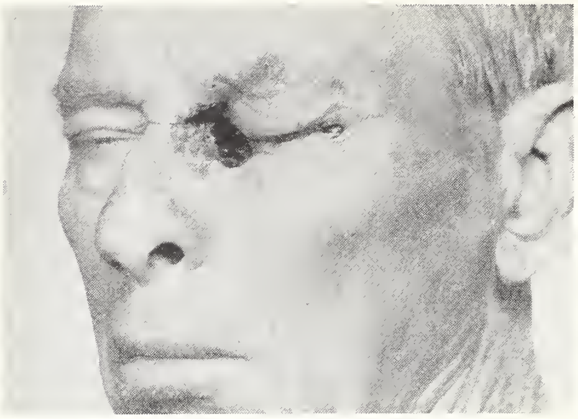

Fig. 4-A Extensive orbital basal cell carcinoma.

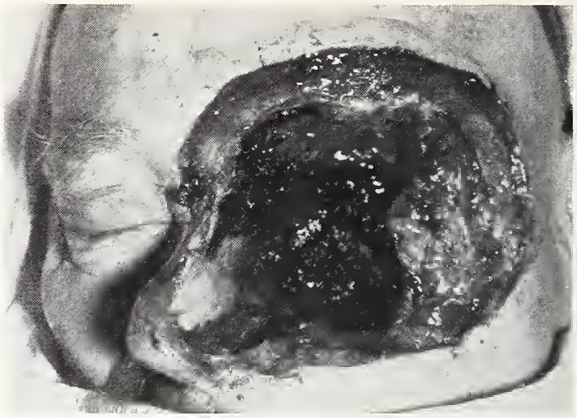

Fig. 4-B Extent of resection.

head is brain abscess due to direct extension.[6] Surgical excision of basal cell carcinomas at late stages may necessitate coverage by pedicle flaps rather than skin grafts. The detection of a recurrence may be delayed months or years when the carcinoma is buried under a thick flap rather than under a split thickness skin graft. Follow-up examinations are recommended semiannually. Patients with history of recurrence following excision should be followed more closely. All poorly healing ulcers and wounds should have a biopsy.

Conclusion

1. The management of late basal cell carcinoma may require extensive reconstruction.
2. Recurrent lesions may go undetected for several years beneath pedicle flaps.
3. Non-healing ulcers of the skin should be biopsied.
4. Some types of basal cell carcinoma may metastasize.
5. Recurrence of periorbital lesions is common and may be hidden in the deep soft tissues of the orbit until an advanced stage is reached. Such lesions may subsequently result in death, secondary to local intracranial extension and brain abscess.

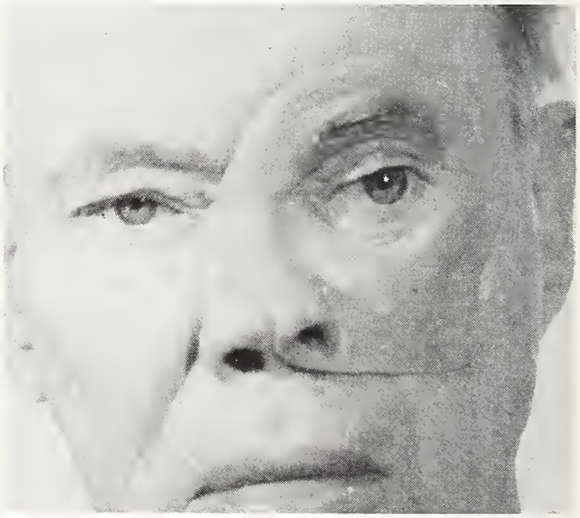

Fig. 4-C Moulage satisfactory for this patient.

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VOTE on November 5th!

ELIZABETH JAMES, M.D. *and*
G. VAN LEEUWEN, M.D., *Columbia*

Congenital Anomalies of the Gastrointestinal Tract

Realizing that many congenital malformations are unrecognized in a standard physical examination during the neonatal period, the authors report their experience at the University of Missouri, describe an anomaly survey and propose that it be performed routinely on all newborns to establish early detection and diagnoses. Doctor James is a Fellow and Trainee in Pediatrics and Doctor Van Leeuwen is Associate Professor (on leave) in the Department of Pediatrics, University of Missouri Medical Center. He is currently at the University of Nebraska Medical Center.

THE RECOGNITION OF CONGENITAL MALFORMATIONS has been based primarily on a standard physical examination performed during the neonatal period. There is evidence that many abnormalities are unrecognized in this manner. In fact, many are unrecognized at birth even when a careful evaluation is made.[1, 2]

During recent years, a large number of infants with obstructive gastrointestinal defects have been referred to us at several days of age in a moribund state. Survival of these infants would have been increased by early diagnosis. We decided to incorporate a series of tests for hidden congenital anomalies into the routine examination of the newborn infant. Apgar and James have previously recommended many of these procedures.[3] Careful observation and passage of a nasogastric and rectal catheter are the essence of the procedure by Apgar and James.

The purpose of this paper is to report our past experience with gastrointestinal malformations in infants at the University of Missouri Medical Center and to suggest a simple group of observations which will establish these diagnoses early.

PAST EXPERIENCE

Records were reviewed of all infants with selected gastrointestinal anomalies admitted to the University of Missouri Medical Center during the nine-year period from Jan. 1, 1959 to Jan. 1, 1968. The results of this review are summarized in Table 1. Forty-seven patients were treated, 12 of whom had birth weights of less than 2500 gm. Polyhydramnios was reported in ten cases (21%). Associated anomalies were present in 26 cases (55%). Total mortality rate was 32%. Thirteen of the 15 who died had associated anomalies.

The most common anomaly was found to be imperforate anus, with 16 cases treated. Only six of these 16 cases were diagnosed at birth. Two were diagnosed at age one month and one

TABLE 1
SUMMARY OF GASTROINTESTINAL ANOMALIES AT UNIVERSITY OF MISSOURI MEDICAL CENTER, 1959-1968

Anomaly	*No. of Patients*	*Male*	*Female*	*Premature*	*Reported Polyhydramnios*	*Associated Anomalies*	*No. of Deaths*
Esophageal atresia and T-E fistula	13	10	3	5	2	4	3
Choanal atresia and stenosis	9	4	5	1	1	4	4
Ileal atresia	1	0	1	0	1	0	0
Colon atresia	1	0	1	0	0	0	0
Duodenal atresia	7	6	1	1	4	3	3
Imperforate anus	16	7	9	5	2	15	5
	—	—	—	—	—	—	—
	47	27 (58%)	20 (42%)	12 (26%)	10 (21%)	26 (55%)	15 (32%)

at two months of age. Associated anomalies included nine with demonstrated rectoperineal, recto-vaginal or recto-urethral fistulae and ten with multiple abnormalities. Four of the five who died had multiple associated anomalies. Six of the 11 survivors have required subsequent treatment for either fecal incontinence or stricture.

Esophageal atresia with tracheoesophageal fistula was seen in 13 patients. Twelve were of the classic type (Gross type C) with a blind proximal pouch and communication of the distal esophagus with the trachea. Nine were treated with primary anastamosis, while four required esophagostomy and gastrostomy in addition to fistula ligation. In only three cases were the diagnoses made within the first three hours of life; the anomaly appraisal subsequently described was performed in all three cases. All of the ten survivors have required dilatations for esophageal stricture.

There were nine cases of choanal atresia and/or stenosis. Three had bilateral atresia, three had unilateral atresia, one had bilateral stenosis, one had unilateral stenosis and one had atresia on one side with stenosis on the other. Four were diagnosed in the delivery room because of inability to pass a nasal catheter, one had obvious facial deformities with a single median nostril ending in a blind pouch and the remaining four patients presented with respiratory distress and cyanosis increasing with feeding. Diagnosis was made at one day, 13 days, one month and one-and-one-half months on these four patients. Seven of the nine patients required no surgical treatment in the newborn period; palatal fenestration was carried out on one child and currettement with insertion of polyethlene tubes was performed on the other. Taping of a nipple with the end cut off in the baby's mouth was found to be a useful adjunct in maintaining an airway prior to surgery.

Seven patients with duodenal obstruction were treated, six of whom were males. Polyhydramnios was reported in four of the seven cases. Three of the seven died, all of whom had associated anomalies.

There was one case of ileal atresia and one of colonic atresia; both patients survived. The child with atresia of the colon was admitted at the age of five days, and surgical correction was carried out on the same day. It is interesting to note that there are now reported in the literature approximately 50 successfully treated cases of colonic atresia, of which only one patient was operated on after the age of four days.[4, 5]

Anomaly Survey

The specific procedures, which are performed routinely on all infants born at the University of Missouri Medical Center within 30 minutes of birth, are listed in Table 2. Results of our experience with this survey are reported elsewhere.[6]

TABLE 2

DESCRIPTION OF THE CONGENITAL ANOMALY APPRAISAL

Survey	*Suspected Disease*
1. Inquiry for polyhydramnios	GI, GU and CNS obstructive disease.
2. Appearance of abdomen	Concavity may indicate diaphragmatic hernia, exaggerated convexity may indicate a possible abdominal mass.
3. Passage of naso-gastric tube	Choanal atresia, cleft palate, T-E fistula.
4. Aspiration of stomach with recording of color and amount of fluid	Greater than 20 ml indicates obstruction.
5. Insertion of rectal catheter	Imperforate anus or stenosis.
6. Counting umbilical arteries	One indicates possible renal anomaly or chromosomal trisomy.

Methods

Anomaly Appraisal: Each infant delivered in this institution receives a careful examination in addition to an intensive congenital anomaly appraisal within the first 30 minutes of extrauterine life. The third-year medical student in attendance performs the appraisal under the supervision of a pediatric resident. Any abnormality is reviewed by a senior resident or staff physician.

Polyhydramnios: This information is obtained from the obstetrician. This is a clinical diagnosis based on the observation of the obstetrician that more than 2,500 ml of amniotic fluid were present. We are not able to obtain information concerning the actual measurement of amniotic fluid.

Observation of Abdomen: Careful observation of the convexity or concavity of the abdomen is made. This may suggest presence of abdominal mass or diaphragmatic hernia.

Naso-gastric Tube: A No. 8 French plastic feeding tube is passed through each nasal orifice into the nasopharynx. If this is impossible, a

No. 5 French catheter is used. Inability to pass a No. 5 catheter is followed by radiological examination for choanal atresia. If the No. 5 catheter can be passed with difficulty, the diagnosis of choanal stenosis is made. The catheter is then advanced into the stomach and 1 ml of air is injected while the examiner listens over the abdomen to insure actual presence of the catheter in the stomach.

Aspiration of Stomach: The ability to obtain 1-2 ml of aspirate is not proof that the tip is in the stomach, because the "gastric aspirate" obtained may be mucous and saliva from the blind pouch of an esophageal atresia. Therefore, one must previously have ascertained presence of the catheter in the stomach as described.

Rectal Catheter: The same catheter used previously is then inserted into the rectum as far as it can be easily passed. If meconium is not present on the tip of the catheter after withdrawal, a digital examination is performed. If no meconium is produced by this means, very careful observation of the infant for gastrointestinal abnormality is indicated.

Umbilical Arteries: The umbilical stump is examined at the point of entry into the infant. Unless both arteries are easily identified, they are examined under magnification with a hand lens and probed. One artery suggests the need for genito-urinary evaluation.[7]

SUMMARY

Neonatal deaths and morbidity remain higher than anticipated in infants suffering from obstructive gastrointestinal disease. Our past experience demonstrating that diagnosis is many times delayed is presented. We propose that the anomaly survey described be performed routinely on all newborns. This survey can be completed in two minutes at minimal cost.

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Nebraska-M.U. Football Game and "Bryan Days"

Bryan Memorial Hospital in Lincoln, Neb., has extended a special invitation to MSMA members to attend Bryan Days at the Hospital on October 18-19. This continuing education program, "Hypertension Today," will feature guest speakers Richard H. Martin, M.D. of the Department of Medicine at the University of Missouri and Ray W. Gifford, M.D. of the Department of Hypertension and Renal Disease at the Cleveland Clinic in Cleveland, Ohio. A social hour and dinner at the Lincoln Country Club will follow Friday's program, which begins at 1 PM. Saturday's program begins at 9:30 AM, lunch will be served in the Hospital Cafeteria and then off to the Nebraska-Missouri football game.

PAUL T. CONDIT, M.D., ***Oklahoma City, Okla.***

Treatment of Carcinoma With Radiation Therapy and Methotrexate

This is the second article in a series from the proceedings of the Professional Program of Ellis Fischel State Cancer Hospital and Cancer Research Center which was held in May, 1967 and which brought together outstanding speakers to discuss the management of advance squamous cell carcinomas of the oral cavity, the oropharynx and the hypopharynx.

Doctor Condit is Head of the Cancer Section, Oklahoma Medical Research Foundation and Associate Professor of Research Medicine and Radiology at the University of Oklahoma School of Medicine. This paper was prepared in collaboration with Drs. Carl R. Bogardus, Jr., Raul E. Chanes, James B. Snow, Jr. and G. Rainey Williams. It was supported by Grants from the American Cancer Society (T-19a) and the National Institutes of Health (CA-05815).

Introductory remarks are by Dr. Ruheri Perez-Tamayo, Chief of Radiotherapy at EFSCH, who served as a section coordinator and moderator for the program.

INTRODUCTION

The problem of the treatment of advanced squamous cell carcinomas of the oral cavity, oropharynx and hypopharynx is being approached from numerous directions at the clinical level. One empirical approach has indicated that the combination of chemotherapy and other treatment modalities may result in the improvement of cure rates in advanced carcinomas of the head and neck. Several drugs and schedules are under investigation. Advanced lesions are presently curable in less than 15% of the patients treated with conventional radical surgery or present radiotherapy methods. Chemotherapy alone, with drugs presently available, is not curative. It is being investigated, however, as an adjuvant to surgery or radiotherapy to increase salvage rates. The use of Methotrexate has been shown to produce promising tumor regressions when added to other treatment modalities, and it may possibly result in higher cure rates. Only transient remissions are produced with Methotrexate alone. Some of the important variables involved when chemotherapy is considered are the size of the dose, the route of administration, the schedule of the dosage employed, the timing of the schedules when combined to surgery or radiotherapy, the inherent toxicity of the drug and the clinical condition of the patient. In this area, the combination of radiation therapy, Methotrexate and the various schedules are discussed.—Ruheri Perez-Tamayo, M.D.

THE FOLIC ACID ANTAGONISTS were introduced into clinical medicine in 1948 by Farber *et al*[1] who showed that they were effective agents in the management of children with acute leukemia. Aminopterin and amethopterin (Methotrexate, MTX) were then tried in many patients with different kinds of cancer with rather disappointing results. In reviewing this early work, it has become apparent that the majority of the patients had adenocarcinomas and were selected probably because of the prominent toxic effects of these agents upon the gastrointestinal tract. It was not until 1958 that Condit *et al*[2] and Sullivan *et al*[3] demonstrated the effectiveness of Methotrexate in the management of patients with squamous cell carcinoma of the head and neck. They showed that transient remissions could be produced in many patients, but only occasionally were these more than a few months in duration.

A number of investigators have explored the possibility of potentiating the therapeutic effects of radiation therapy by adding Methotrexate (or other drugs) to the treatment regimen.[4-6] A variety of dosage combinations has been tried with some encouraging results. Thus far, however, definitive studies have not been done in patients with squamous cell carcinoma of the head and neck. This report reviews our experience with Methotrexate given at the same time as radiation therapy.

METHOTREXATE ALONE

At the present time, there are at least six different dosage regimens of Methotrexate in clinical use (Fig. 1). No. 1, the oldest, is that employed by Farber *et al*[1] who gave relatively small daily doses of aminopterin or Methotrexate

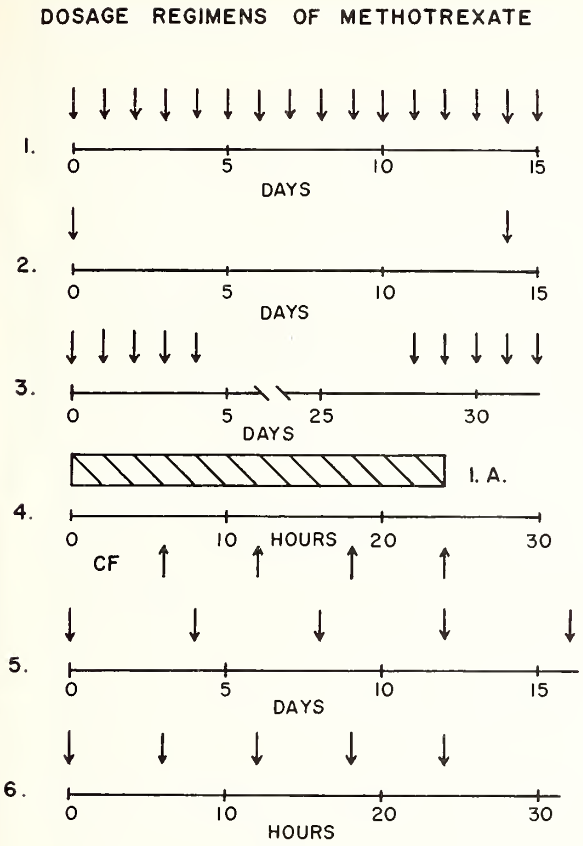

Fig. 1

either by parenteral or oral routes. No. 2, the regimen introduced by Condit *et al*,[2] employs relatively large intravenous doses at intervals of two weeks. No. 3 is the intensive course introduced by Li *et al*[7] in which five day courses are given at monthly intervals. In No. 4, the regimen of Sullivan *et al*,[3] the drug is given continuously into the arterial supply of the tumor, while toxic effects are minimized by the concomitant intermittent intramuscular injection of the specific antagonist, the citrovorum factor (leukovorin, 5-formyl tetrahydrofolate). More recently, the Acute Leukemia Group B,[8] No. 5, has given the drug to patients with acute leukemia every four days as a modification of the schedule originally introduced by Condit *et al.*[2] No. 6, there has also been (in patients with acute leukemia) a dosage regimen in which the drug is given four times a day.[9] The first four regimens have been used successfully in patients with squamous cell carcinoma of the head and neck. While all appear to be effective, it is not clear which one, if any, is superior. In our hands, the two week schedule, No. 2, is associated with minimal drug toxicity and yields therapeutic results at least as good as the others.

Even though there has been considerable experience by Sullivan[3] and others in the administration of Methotrexate by the intra-arterial route, our own experience has been somewhat less rewarding. The incidence and duration of response of patients treated by the intra-arterial route, as compared with those treated by the intravenous route, appear to be quite similar. In addition, there is no obvious advantage to the intra-arterial route either in the reduction of systemic drug toxicity or in the enhancement of local antitumor effects. The arterial route is most useful when a drug is cleared from the circulation by one passage through a vascular bed. In the case of Methotrexate, with a plasma half-life of one to two hours, this advantage is not apparent. Because of the hazards, the technical difficulties, the lack of obvious therapeutic enhancement and the fact that only about one fourth of the patients have adequately localized lesions, we do not feel that the intra-arterial approach has any advantages.

The experience to date with Methotrexate given by the intravenous route at intervals of two weeks suggests that one third of the patients with advanced squamous cell carcinoma of the head and neck can expect objective improvement in terms of regression of established tumor masses. Almost two thirds will develop symptomatic relief, particularly reduction of pain. In both instances, there will be little associated drug toxicity. The duration of response averages two to three months; occasional remissions are longer, but they are unusual. While earlier studies with Methotrexate carried out more than ten years ago involved doses of from 5 mg/kg to 7 mg/kg every two weeks, somewhat smaller doses are now necessary with improvements in drug purity and stability. Most patients now tolerate doses in the range of 1 mg/kg to 3 mg/kg every two weeks without undue drug toxicity. It is usually wise to start with a smaller dose, e.g., 1 mg/kg, and increase subsequent doses depending upon the response.

Radiation Plus Methotrexate

A. *Dosage Regimens of Radiation Therapy*

Because of the obvious limitations of Methotrexate alone, the feasibility of combining it with radiation therapy was explored. The three dosage schedules employed in the initial phases of this work are shown schematically in Fig. 2 as follows: Schedule I—Daily protracted at 200 rads per dose, five times a week for five weeks to

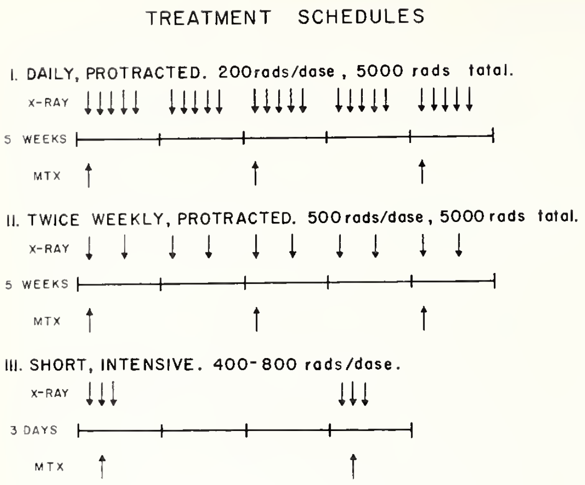
TREATMENT SCHEDULES
I. DAILY, PROTRACTED. 200rads/dose, 5000 rads total.
X-RAY
5 WEEKS
MTX
II. TWICE WEEKLY, PROTRACTED. 500rads/dose, 5000 rads total.
X-RAY
5 WEEKS
MTX
III. SHORT, INTENSIVE. 400-800 rads/dose.
X-RAY
3 DAYS
MTX

Fig. 2

a total tumor dose of 5,000 rads; Schedule II—Twice weekly protracted at 500 rads per dose twice a week for five weeks, to a total tumor dose of 5,000 rads; Schedule III—Short intensive split dose at a rate of 400 rads to 800 rads tumor dose per day for three days, then repeat in one month for a total tumor dose of 2,400 rads to 4,800 rads in four weeks. At the same time, Methotrexate was given at intervals of two weeks during the five weeks of radiation therapy by Schedules I and II for a planned total of three doses. With Schedule III, a dose of Methotrexate was given with each course of radiation therapy. The criteria for response and the definition of toxicity have been described previously.[10] Supervoltage radiation therapy was given by either a 2 MEV van de Graaff generator or by a cobalt 60 source.

With Schedules I and II, drug toxicity was a serious problem, with 11 of 22 patients developing moderate to severe toxicity, including one death. Schedule III, however, produced little toxicity, with only one patient classified as having moderate toxicity.

All the patients treated showed some evidence of tumor regression, except three treated by Schedule I. The response from the treatment in Schedule I had an average duration of 14 months, with one patient still in remission after 56 months and, apparently, cured of his disease. All the patients treated by Schedule II responded except the one who died of drug toxicity. Duration of response could not be evaluated with these patients because they had multiple lesions, only one of which was treated by the combination therapy. All the patients treated by Schedule III responded for an average of 26 months, with two patients still in remission and, apparently, cured after 55 and 76 months, respectively. It was concluded from this preliminary study that the split-dose intensive technique of radiation therapy combined with Methotrexate given at intervals of two weeks was of some promise and should be further explored.

B. *Pilot Study*[11]

A pilot study was done with 15 patients with advanced squamous cell carcinoma of the head and neck, seven of whom had received previous radiation therapy. All were treated by split-dose intensive radiation therapy, receiving from 200 rads to 500 rads per day for three consecutive days and with a repeat course a month later. Methotrexate was given as a single intravenous dose ranging from 1 mg/kg to 5 mg/kg at intervals of approximately two weeks. All patients experienced some degree of tumor regression for an average duration of approximately four months. Only two developed severe drug toxicity.

C. *Comparative Study*

In order to assess the contribution of Methotrexate to the therapeutic results in patients with squamous cell carcinoma of the head and neck, a controlled comparative study was undertaken in Sept., 1963. Fifty-two patients with squamous cell carcinoma of the head and neck were selected, using the following criteria:

a) Histologic diagnosis of squamous cell carcinoma.

b) Not a candidate for curative treatment by either surgery or radiation therapy because of the location or extent of the tumor.

c) Lesion(s) that can be measured.

Methotrexate is given intravenously at intervals of two weeks while supervoltage radiation therapy is used. The patients are initially assigned to one of four subgroups, depending upon the presence or absence of distant metastases and whether or not they have received previous radiation therapy. Within each subgroup, patients are assigned to one of two treatment groups by means of a table of random numbers. If all lesions can be encompassed by a single treatment volume, the patient is entered in Subgroup # 1 or # 2. Peripheral metastases may be present close enough to the primary tumor to be included in one treatment volume. If all lesions cannot be encompassed by one treatment volume, the patient is placed in Subgroup # 3 or # 4, and observations are limited to the effect upon the treated tumor. The subgroups are as follows:

Subgroup # 1: No distant metastases, no previous radiation or chemotherapy.

Subgroup # 2: No distant metastases, no previous chemotherapy, but have had less than the maximum amount of radiation therapy.

Subgroup # 3: Distant metastases; no previous radiation or chemotherapy.

Subgroup # 4: Distant metastases; no previous chemotherapy, but have had less than the maximum amount of radiation therapy.

Within each subgroup, the following two treatment groups are used: (A) Radiation therapy combined with chemotherapy. Two courses of supervoltage radiation therapy of 1,800 rads to 2,500 rads tumor dose in three days are given four weeks apart for a total dose of 3,600 rads to 5,000 rads in 31 days. Methotrexate is given in doses of 1 mg/kg to 4 mg/kg intravenously at intervals of two weeks for a total of four doses. The first dose of 1 mg/kg to 2 mg/kg is given on the first day of radiation therapy. Subsequent doses may be larger or smaller depending upon the response. (B) Patients receive radiation therapy as described above, but do not receive Methotrexate.

Subgroup # 1 is the major division and consists of 40 patients. There are 20 in treatment Group A and 20 in Group B. The results are summarized in Table 1. A preliminary report of the results at 25 months has been published.[11] The incidence of response is nearly the same in both groups, but remissions developed sooner in the patients treated with both agents and seem to last a little longer. In neither case, however, are the differences significant at the 5% level. Five patients in each group failed to complete the planned therapy because of complications of their advanced disease. Five additional patients in Group A developed severe Methotrexate toxicity after partial therapy. All showed improvement for an average of 12.5 months, with two patients still in remission after 27 and 29 months, respectively.

Subgroups # 2, # 3 and # 4 were made up of five, five and two patients, respectively. One patient in Subgroup # 2 completed combined therapy and had a remission of almost ten months; another completed only part of the planned combined treatment but did have a remission of 4.2 months. Three patients treated with radiation therapy alone failed to respond. Only two of the five patients in Subgroup # 3 had remissions for 9.6 and 7.9 months, respectively. In both cases, tumor masses outside the radiated area continued to grow and required other treatment. Neither of the patients in Subgroup # 4 responded.

TABLE 1

COMPARATIVE STUDY

(44 months)

X-Ray + MTX		*X-Ray*
20	Number of patients	20
10	Completed treatment	15
10	Incomplete	5
9 (90%)	Remission	12 (80%)
22.5	Day of onset	33.2
5.1+	Duration (months)	3.4
1	Failure	3
5	Partial treatment	
12.5+	Duration (months)	

Because the patients in Subgroups # 2, # 3 and # 4 had advanced disease which responded poorly to therapy, these subgroups were discontinued in April, 1964.

Results to date would suggest that there may be a slight advantage to combining Methotrexate with radiation therapy when both agents are employed in the manner described. Whether or not this represents a worthwhile improvement in management will require the evaluation of a larger number of patients.

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(*The next article in this series will discuss the toxicity of Methotrexate when combined with radiotherapy.*—Ed.)

J. BAMSHAD, M.D., ***Columbia***

Possible Mechanisms of Development of Urticaria

Different mediators are involved in mechanisms of development of histamine urticaria, cholinogenic urticaria and cold urticaria. The author presents brief analyses of the formation and breakdown of the mediators involved. Doctor Bamshad is from the Division of Dermatology, University of Missouri School of Medicine.

URTICARIA is a dermal disease in which there are dilated capillaries, edema and exudation in the upper cutis. It could be associated with constitutional symptoms, such as headache, fever and malaise, or without any systemic manifestation.[1] The development of urticaria is attributed mostly to release of histamine or histamine-like substance. Besides histamine, however, there could be other mediators which play important roles in development of urticaria. For instance, cholinogenic urticaria is caused by acetylcholine, and cold urticaria, which usually is seen in patients after exposure to cold, could be mediated by chemicals other than histamine and acetylcholine.

The mechanisms in development of different types of urticaria are dependent upon the presence, biosynthesis, and metabolism of involved mediators. In order to remember these mechanisms, the following brief analysis of formation and breakdown of involved mediators is necessary:

I. Mechanisms in Histamine Urticaria. Histamine originates from an amino acid, histidine. The histidine undergoes decarboxylation by specific and nonspecific decarboxylases to form histamine (Fig. 1).

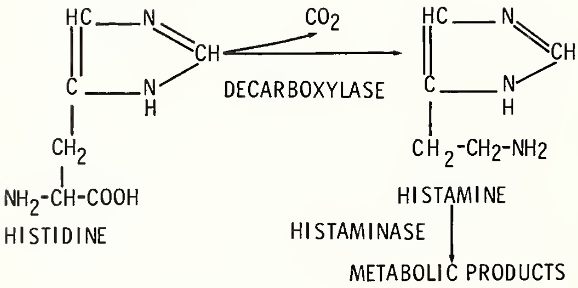

Fig. 1 Biosynthesis of histamine from amino acid histidine. Histidine decarboxylase catalyzes this reaction.

After histamine is formed, it is stored in the mast cells and basophils as a bound form of histamine then is released by various stimuli. It also might remain in the tissue as a free form of histamine, biosynthesis of which is regulated by the alteration in the activity of an induceable form of histidine decarboxylase.[2] Histaminase inactivates histamine and breaks it down to imidazole acetic acid and other excretion products.

Upon direct stimulation of tissue or stimulation by antigen-antibody reaction, the following mechanisms might take place:

1) Release of increased amount of histamine from cells containing histamine (mast cells—basophils, etc.).

2) Activation of specific and nonspecific decarboxylases which results in biosynthesis of greater amount of histamine.

3) Block in normal pathway of catabolism of histamine due to inactivation of histaminase.

The end product of each mechanism is an increased level of tissue histamine which results in development of urticaria.

II. Mechanisms of Cholinogenic Urticaria. Acetylcholine is a neurohormone that is secreted from the parasympathetic nerve endings. It is formed from choline and acetyl CoA. Choline acetylase catalyzes this reaction.[3] It is broken down and becomes inactivated by cholinesterase (Fig. 2) found not only at the nerve endings but also within the nerve fibers.

If we consider that acetylcholine is involved

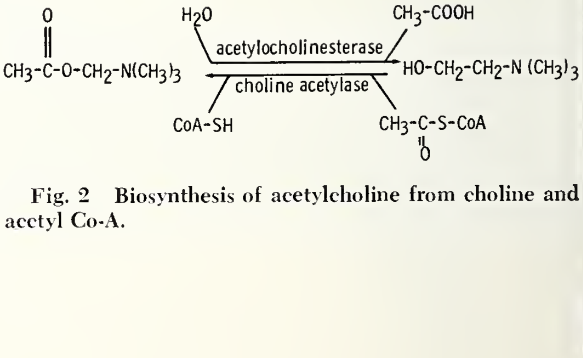

Fig. 2 Biosynthesis of acetylcholine from choline and acetyl Co-A.

in cholinogenic urticaria, the mechanisms of development of urticaria could be as follows:

1) Increased secretion of acetylcholine at the nerve endings due to emotional and psychic stimuli, environmental heat, exercise, warm food, fever, etc.
2) The amount of acetylcholine secreted at the nerve endings is normal: however, the skin of patients could be more sensitive to this mediator.[4]
3) There could be a deficiency of cholinesterases genetically or inactivation of cholinesterases by other drugs such as prostigmine, neostigmine, etc.

III. Mechanisms in Cold Urticaria. This urticaria could be associated with cryoglobulinemia, syphilitic paroxysmal cold hemoglobinuria or it could be congenital or acquired essential cold urticaria. Recently, Kinin has been demonstrated in induced cold urticaria.[5] It is possible that, in addition to other unknown mediators, this very potent vasodilator plays an important role in the development of this kind of urticaria. Since bradykinin is formed from the action of kallikerin on α_2 globulin and changes to an inactive product by kininase (Fig. 3), it is of interest to determine whether or not the pathway of systhesis and catabolism of this vasodilator is abnormal in the skin of patients with cold urticaria.

Recently in our dermatology laboratory, we have found that activity of catechol-o-methyl transferase, an enzyme involved in the transfer of a methyl group from S-adenosyl-methionine to catecholamines and inactivation of these hormones (Fig. 4), is much greater in inflamed areas than in normal areas of the skin of the same patients. It is conceivable that this enzyme also becomes activated in the skin of patients with urticaria, causes an abnormal inactivation of local catecholamines and results in an imbalance between vasodilators (histamine, acetylcholine, bradykinin) and vasoconstrictors (epinephrine and norepinephrine). This could cause vasodilation, exudation and edema which are characteristics of urticaria.

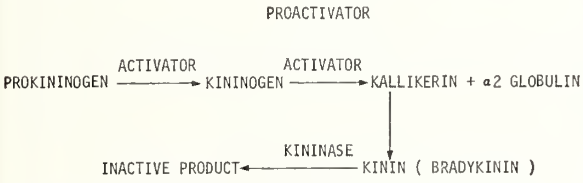

Fig. 3 Biosynthesis of bradykinin and inactivation by kininase.

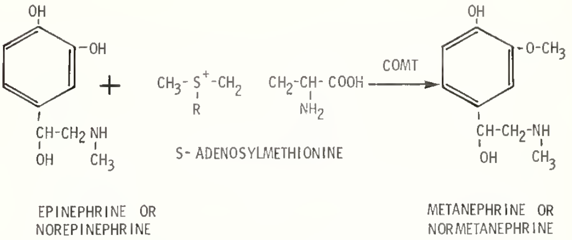

Fig. 4 Inactivation of catecholamines by COMT outside of nerve endings.

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David N. Kerr, M.D.

We do not wish, in this JOURNAL, to tell you how to vote. This is a matter for each individual conscience and understanding of the issues and views of the candidates. However, we most certainly do urge you to make a continuing study of the many important issues, not only those concerning the profession, but, also, the whole panorama of significant matters for which we must soon come up with real answers and programs. We urge you to relate your conclusions to the programs and philosophies of the various candidates in order to produce an intelligent and meaningful vote. This is the hard part in many instances. Nevertheless, this is what we all must do. In addition to our right as citizens, it is a duty to ourselves, to our profession, in many instances, and, in all cases, to the continuity and constant improvement of the government under which we live.

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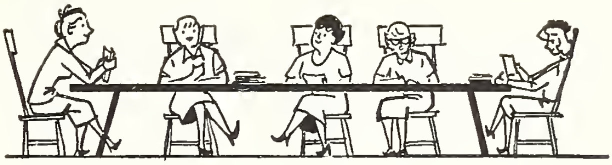

BE INFORMED, INFORM OTHERS AND BE INVOLVED IN LEGISLATION. This is the message sent out by Mrs. William R. Flood, Legislation Chairman for the Woman's Auxiliary to the American Medical Association.

Mrs. Flood states that the legislation target areas for 1968-1969 are twofold: "1. Medical legislation. Continue to be alert to and informed about any medical legislation introduced on the state or national levels. Join or form a legislative study group. Visit your state capitol and see government in action. Read *Legislative Roundup, AMA News,* State Medical Association legislative news publications and general news publications.

"2. The 1968 elections. 'On the hill' in Washington, D. C., the November election is referred to as the most crucial election since the Civil War. Remember that, as an organization, the auxiliary does not take a stand on any issue except at the expressed request of the national, state or county medical association or society.

"As an individual, however, there is much you can and must do—

1. Join AMPAC (American Medical Political Action Committee).
2. Enroll in a Precinct Action Course.
3. Know the incumbents—their voting records.
4. Know the candidates—their views and proposals.
5. Know the issue involved.
6. Work for the candidate of your choice.
7. Inform others.
8. Vote!

"This will be a most exciting presidential election year, but don't forget that it is the legislators who propose and pass legislation."

Mrs. E. F. Butler, President

It isn't too late for every doctor and every doctor's wife to BE INFORMED, INFORM OTHERS AND BE INVOLVED IN LEGISLATION.

The AMA sometimes is accused of standing in opposition to most medical legislation introduced in the Congress. Examination reveals, however, that the AMA supports far more legislation than it opposes and, when it is in opposition, it often suggests amendments which would remove this opposition.

Many Auxiliary members throughout the state have been and still are taking an active part in politics on an individual basis, especially since the spring workshops where they were urged to become active and informed about legislation.

Let's each of us go to the polls and VOTE for what we believe in and for the party of our choice.

Geigy

EDITORIALS

MENTAL HEALTH PROGRESS IN MISSOURI
—The Last Ten Years and Before

It is only occasionally that an annual report appears which contains a story of such dramatic import that it deserves a much wider audience. A story deserving such attention is contained in the most recent annual report of the Missouri Division of Mental Diseases. It describes how the enactment of legislation in 1957 placing Missouri's public mental hospitals under a capable psychiatric director paved the way for a decade of remarkable progress. A substantial part of the credit for shaping the form of this legislation and aiding in its passage belongs to the MSMA.

The new program's first director, Dr. Addison M. Duval, organized a strong team of mental health professionals and started the job of upgrading Missouri's mental hospital system. The present director, Dr. George A. Ulett, conceived and guided to completion the present system of intensive treatment centers in St. Louis, Columbia and Kansas City, as well as the Missouri Institute of Psychiatry. All are extensively involved in a program of teaching, training and research which is so essential to high quality medical care. The dramatic nature of the change that has been wrought in these last ten years can best be highlighted by these significant comparisons: (1) the number of staff psychiatrists has increased from 17 to 86, (2) the number of resident physicians in training has grown from 14 to 120 and (3) the total patient population has dropped from 11,855 to 7,900 in the face of an increased admission rate.

Lest it be thought, though, that the care of the mentally ill prior to 1957 was totally inadequate, some attention should be given to the operation of Missouri's mental hospitals in the preceding decades. It is true that each hospital had to struggle along on its own without the planning and assistance of centralized professional direction. It also is true that at one time in the not-too-distant past a grant of a dollar-a-day per patient for maintenance was considered to be a major concession by the General Assembly. Likewise, it is true that the day-to-day care of the patients had to be entrusted to ancillary personnel who, more often than not, were poorly qualified. It also is a fact that political interference was a way of life much of the time in most of the hospitals. And it is true that teaching, training and research were largely nonexistent.

Yet, despite all of these handicaps, a dedicated group of physicians carried on for the welfare of their patients. Through the 1920's, this meant that, in the absence of specific therapeutic methods of significance, an additional burden was placed upon the physician's clinical skill and ingenuity. In the lean depression years, it might have meant giving as much time and energy to the hospital farm and dairy as to the medical care of the patients. During World War II, it meant that one physician might be responsible for the entire patient load of the hospital. In the 1950's, it could have meant the continued cry for help to a public that was only beginning to awaken to its responsibility for providing better care for the mentally ill.

Among this dedicated group of physicians, one who came to be known for his many years of faithful service to his patients was Dr. Emmett F. Hoctor, superintendent of State Hospital No. 4 at Farmington from 1925 to 1963. The remarkable years he has given to his patients, his profession and his community have now been recorded in a recently published book, "Let Me Not Be Mad, Sweet Heaven!" by William and John Stewart.

Dr. Hoctor's devotion to his patients, his ability to overcome many of the prejudices and superstitions that impede the treatment of the mentally ill and his ability to win the confidence of the community at large—all are described from the first-hand knowledge of the authors, a former chaplain at the Farmington hospital and his son. It was not only Dr. Hoctor's rapport with his patients and the community that made his work so effective. Equally important was his progressive attitude toward changing concepts and methods in psychiatric medicine. He was in the forefront in the introduction of the Kettering hypertherm for the treatment of general paresis in the early 1930's, in the use of insulin coma therapy in the late 1930's, in the use of electroconvulsive therapy and pre-frontal lobotomy in the early 1940's and in the use of psychotropic drugs in the 1950's.

Beyond all of this, however, the significance of Dr. Hoctor's career lies in his fulfillment of the highest aspirations of our profession. He embodied these in his selfless devotion to his work, his complete concern for the welfare of his patients and his dedication to the alleviation of suffering as the highest ideal of the profession. His career should stand as a reminder that the relationship of the physician to his patient remains the foundation for the best in medical care. It is to be hoped that this will not be sacrificed as Missouri's mental health program continues to grow.

JAMES N. HADDOCK, M.D.
Chairman, MSMA Committee on Mental Health

A CONVENTION FOR THE PRACTICING PHYSICIAN

At no time in medical history has there been such an explosion of scientific knowledge and technology. Never has there been a greater demand for physicians' services.

These factors combine to burden the busy physician in his efforts to keep abreast of the modern developments in medicine.

There is an abundance of fine scientific publications, but many hours of reading would be required to learn what can be gained by attending the Clinical Convention of the American Medical Association. It will be in Miami Beach, Fla. on Dec. 1-4.

There will be 125 exhibits there reflecting the latest developments in pharmaceuticals, medical equipment and scientific endeavors.

The Clinical Convention—this will be the 22nd—is one of the best ways of providing continuing education to the busy physician. The scientific exhibits alone are a good postgraduate course in medicine.

Special postgraduate courses will be offered, too, in diabetes, fluid and electrolyte balance and thyroid disease. In addition, there will be about 30 medical motion pictures and scientific television programs will be shown live and in color.

For the physician who likes to discuss the intricacies of his profession, there will be clinical workshops and four breakfast roundtables.

The AMA Clinical Convention is designed primarily for the man in practice. The speakers will read papers that will bring to the practitioner the latest findings of others in his area.

There is an unprecedented emphasis on and need for continuing education. A great manpower shortage has made it mandatory for the physician to expand his knowledge and become more versatile.

The Clinical Convention promises to be a stimulating four days worthy of the busy physician's time. Every physician is urged to take advantage of this educational opportunity.

ON TRANSMITTERS AND RECEIVERS

The AMA's annual Communications Institute was held in Chicago on August 20. It attracted a large group of elected medical organization officers (physicians) and executive secretaries (laymen). They came from all parts of the country, and they represented all sizes and types of county, state and specialty organizations.

The Institute concentrates on the problems of communication, both within the profession and between the profession and the general public. From the various presentations and discussions, it is obvious that there is really only one underlying problem in the numerous obvious problems of communicating. That one basic problem is the problem of involving the individual physician.

In the area of intra-professional communication, a medical society can develop the most sophisticated communications program conceivable. Unless, however, the individual member-physician takes the time and effort to read and assimilate the communication, the program is worthless. Effective communication requires both a transmitter and a receiver . . . and both have to be turned on!

Communication with the general public is the essence of public relations. Again, the effectiveness of such communication is dependent upon the degree of involvement by individuals. A medical organization can embark upon an expensive and time consuming public relations program. But unless the individual members assist through their own person-to-person programs, the overall effort is worthless. As one Institute speaker noted, "Good public relations does not come from gimmicks. It must be earned. It must be built on deeds, not words. On performance, not promise."

As any member of a medical society grievance committee can attest, most public criticism of the medical profession relates to fees, long waits in reception rooms, too little personal attention by the physician, a feeling that the doctor "really doesn't care," difficulty in arranging an appointment with a doctor, etc. You will note that these criticisms are directed at individual physicians.

In such instances, the physician should assume the role of the transmitter in the communications process. He should willingly (perhaps voluntarily) discuss his fees with the patient. When office schedules are upset and delayed, he should be certain that waiting patients are informed as to the reason for the delay, perhaps given an opportunity to return at a later time. He should avoid appearing cold and brusque. These are just some of the small factors which are involved in good individual public relations.

There is the widely held theory that "people love and respect their own doctors, but dislike doctors and doctor organizations." As a matter of record, every recent study on prestige or public esteem shows physicians ranking either first or a close second among all occupations.

In a Gallup survey of eight national organizations, the AMA placed second to the FBI.

The public told Opinion Research Corporation that the AMA is the organization which has done the most to improve the health of our nation.

And Louis Harris, at the completion of a nationwide survey, concluded that "medicine and science clearly are the new 'sacred cows' of American society in the late 1960's."

On the other side of the coin, it appears that medicine's most severe and persistent critics come from these occupations which rank low in public esteem.

In summary, then, effective communication within the medical profession depends upon county, state or specialty organizations transmitting information and the individual physician receiving it. If the individual is too busy or too disinterested to read the communication (or if his secretary has "screened" it out as being unimportant), the message will never be delivered.

Effective communication with the public (public relations) depends upon the county, state or specialty organization utilizing knowledgeable PR practitioners and proven PR principles. But more than that, it depends upon each individual physician carrying out a good PR program of his own.

One prominent physician, when asked for the secret of his obvious popularity with patients, explained it this way: "All I do is visualize myself in the patient's shoes and treat myself accordingly."

ALLEN D. SMITH, Executive Secretary
Jackson County Medical Society
The Greater Kansas City Medical Bulletin

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- **Know Their Views**

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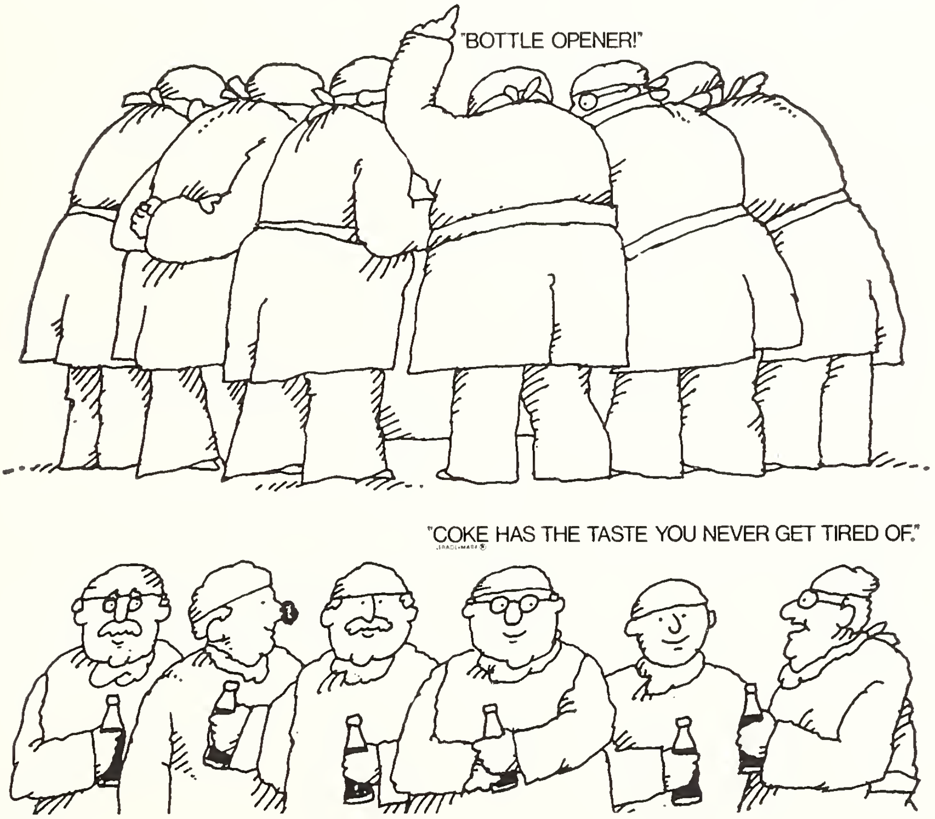
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Contraindications: Hypersensitivity to any component.

Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity* reactions—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

Upon adverse reaction, stop medication and treat appropriately.

Lederle

348-8

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

The first fall meeting of the Buchanan County Medical Society was held at State Hospital No. 2. Dr. Liam O'Brien, superintendent, welcomed members of the Society to their annual meeting held at the Hospital, a custom which began more than 60 years ago. Forty-six staff physicians attended the event. The speaker was Dr. Robert Cancro, a staff member in the Research Department of the Menninger Foundation in Topeka, Kan., who spoke on the subject, "Uses and Abuses of Psychedelic Drugs."

Dr. Berwyn H. Moen, president, presided at the meeting. Arrangements were made by the program committee of which Dr. Ernest E. Weinand is chairman. He served with Dr. Carlyn M. Kline and Dr. Philip C. Lehman.

O. W. D. Craig, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met on August 29 in Nevada. This was the annual meeting of the doctors and coaches in this area and there were 52 doctors and coaches in attendance.

The program followed a social hour and buffet dinner. The Society was honored to have as special guests Dr. David N. Kerr, St. Louis, President of the MSMA; Dr. William Allen, University of Missouri Medical Center; and Mr. Don Brummall of the MSMA Headquarters Office in Jefferson City.

The scientific portion of the program was presented by Mr. Bob Frala, head freshman coach at the University of Missouri, and H. Denny Donnell, Jr., M.D., assistant professor of Community Health and Medical Practice at the University of Missouri Medical Center. Coach Frala chose the topic, "The Prevention of Injuries Through Practice Organization." Dr. Donnell discussed "Heat Exhaustion." Each presentation was excellent, from the standpoint of both the coaches and doctors. The question and answer period after the formal presentations was evidence of the interest and appreciation of the coaches.

MSMA President David N. Kerr was a special guest at the West Central Missouri Medical Society meeting. He was introduced by Dr. Rolla B. Wray, President of the Society and Councilor for the Sixth District.

Following the formal presentations, the West Central Missouri Medical Society members adjourned to a separate room for a business meeting which was called to order by Dr. Rolla B. Wray, president. Minutes of the previous meeting were read and approved. At Dr. Wray's invitation, Dr. Kerr spoke briefly about some of the problems affronting Missouri medicine at the present time and some of his ideas for solving these problems. The Society was very appreciative of Dr. Kerr's visit at this time.

It was announced that the next meeting of the Society would be held on Oct. 10, 1968 at Butler. The annual election of officers will be held at this meeting. Dr. Wray appointed the following members of the nominating committee: Drs. A. W. Eklund, Pleasant Hill, chairman; Carter Luter, Butler; J. H. Thies, Osceola; Robert L. Magee, Eldorado Springs; and C. Braxton Davis, Nevada. This committee is to make its report at the October meeting.

There being no further business to come before the meeting, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

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New Members

Ali A. Arbab, M.D., 751 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Arbab is a native of Iran, received his preliminary education at Kansas State University and his M.D. degree at the University of Kansas in 1960. He specializes in surgery.

David Allen Ball, M.D., 4312 J. C. Nichols Pkwy., Kansas City, has become a member of Jackson County Medical Society. Dr. Ball is a native of Independence, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in orthopedic surgery.

James E. Bickley, M.D., 4620 J. C. Nichols Pkwy., Kansas City, has become a member of Jackson County Medical Society. Dr. Bickley is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in obstetrics and gynecology.

Thomas C. Black, M.D., 601 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Black is a native of Norton, Kan., received his preliminary education at Duke University and his M.D. degree at Louisiana State University in 1962. He specializes in ophthalmology.

James H. Chapman, M.D., 24th & Cherry, Kansas City, has become a member of Jackson County Medical Society. Dr. Chapman is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Tennessee in 1963. He specializes in radiology.

John K. Layle, Jr., M.D., 2727 Main, Kansas City, has become a member of Jackson County Medical Society. Dr. Layle is a native of Iola, Kan., received his preliminary education at Baker University and his M.D. degree at the University of Kansas in 1961. He specializes in internal medicine and rheumatology.

James T. Leong, M.D., 1509 Truman Rd., Independence, has become a member of Jackson County Medical Society. Dr. Leong is a native of Honolulu, Hawaii, received his preliminary education at the University of Iowa, and his M.D. degree at Washington University in 1951. He specializes in obstetrics and gynecology.

Pin H. Pu, M.D., 1301 First St., Kennett, has become a member of Dunklin County Medical Society. Dr. Pu is a native of Shanghai, China, received his preliminary education at St. John's University in Shanghai and his M.D. degree at St. John's University in 1947. He specializes in pathology.

John H. Rippey, M.D., Meyer Blvd. at Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. Rippey is a native of Portland, Ore., received his preliminary education at Lewis and Clark College and his M.D. degree at the University of Oregon in 1958. He specializes in pathology.

Herbert M. Rubin, M.D., 601 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Rubin is a native of Kansas City, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1963. He specializes in pediatrics.

Judith L. Tharp, M.D., Platte Medical Clinic, Platte City, has become a member of Platte County Medical Society. Dr. Tharp is a native of Washington, D. C., received her preliminary education at Park College and her M.D. degree at the University of Missouri in 1967. She is in general practice.

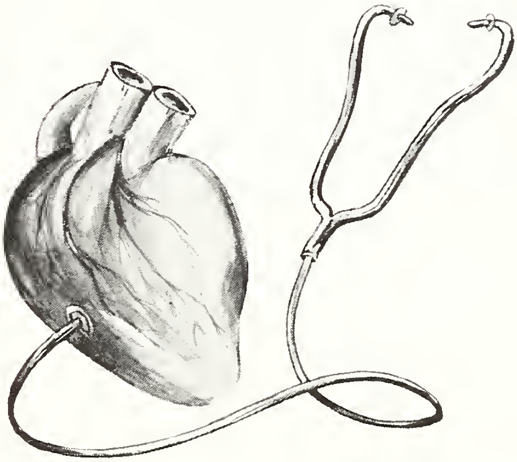
Robert V. Tompson, M.D., 712 Gilman Rd., Moberly, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Tompson is a native of Mexico, Mo., received his preliminary education at West Point and George Washington University and his M.D. degree at George Washington University in 1958. He specializes in surgery.

Arthur P. Vogel, M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Vogel is a native of Leavenworth, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1963. He specializes in anesthesiology.

J. Caleb Wallwork, M.D., Illmo Community Medical Center, Illmo, has become a member of Cape Girardeau County Medical Society. Dr. Wallwork is a native of Birmingham, Ala., received his preliminary education at Vanderbilt University and his M.D. degree at Vanderbilt University in 1965. He is in general practice.

John J. Wertzburger, M.D., 604 West Maple, Independence, has become a member of Jackson County Medical Society. Dr. Wertzburger is a native of Topeka, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1963. He specializes in orthopedic surgery.

. . . AND THE BEAT GOES ON



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warning: may be habit forming
Pectin .... (2½ grains) 162 mg.
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Because of the rising incidence of drug abuse in the United States, especially among young people, the AMA has published five related pamphlets, "Amphetamines," "Barbiturates," "Marihuana," "LSD" and "Glue Sniffing."

Written originally for the 1968 Community Health Week program on drug abuse, the one-page pamphlets answer many questions frequently asked about this growing problem. In addition to describing the effects of these dangerous substances on the body, each pamphlet stresses the hazards of experimentation, the psychological effects on the users and the legal controls.

Review copies are available from the AMA's Department of Health Education. Quantity copies are available from Order Handling at 15 cents each; 50-99 copies, 14 cents each; 100-499 copies, 12 cents each; 500-999 copies, 10 cents each and 1,000 or more copies, 8 cents each.

* * *

Based on the premise that accident investigation could discover clues leading to accident prevention, physicians throughout the country are being asked to participate in a proposed investigation. Selected physicians and police officers from various areas of the country will be given an intensive three-day course at UCLA and other universities. Sponsored by the American Medical Association's Committee on Medical Aspects of Automotive Safety, the project will consist of having these teams gather scientific data from automobile accidents.

H. A. Fenner, Jr., M.D., Hobbs, N. M., committee chairman, said that every traffic accident presents a "tremendous opportunity in its tragic toll of human and mechanical wreckage to discover clues to prevention."

"Most accident reports at the present are related to law enforcement rather than to research-oriented data collection," according to Dr. Fenner. "However, if we had a corps of knowledgeable, trained and qualified physicians and police officers to provide accurate, scientific reports on a large number of accidents, automotive engineers would have the right kind of data to translate into safer motor vehicles and highways," he emphasized.

Interested physicians should send their name, address, age, medical college, and field of practice to the Committee on Medical Aspects of Automotive Safety, AMA.

WASHINGTON

President Johnson has signed into law the Health Manpower Act of 1968 which extends for two years, until June 30, 1971, and expands the federal programs of aid to medical and allied health schools.

Other health legislation enacted into law (1) establishes a National Eye Institute as part of the National Institutes of Health; (2) requires federal buildings to provide easy access to the handicapped; (3) authorizes standards to prevent gas lines from leaking and exploding.

President Johnson termed the health manpower law "a major measure in the battle for better health." It authorizes about $1.2 billion in federal aid to medical and other health personnel schools over two years for construction, expansion and operating expenses. Congress followed most of the Administration's proposals in approving the legislation but limited the extension to two years, instead of the four years requested.

Schools of pharmacy and veterinary medicine were made eligible for the first time.

Money authorizations for schools in the new law are as follows:

Medical and Other Health Professions—Construction grants, $395 million; institutional support, $285 million; scholarships, $32.8 million; student loans, $70 million; total, $782.8 million.

Nursing—Construction, $60 million; institutional support, $75 million; traineeships, $34 million; scholarships, $50 million; student loans, $41 million; total, $260 million.

Allied Health (fiscal 1970 only)—Construction, $10 million; institutional support, $20 million; traineeships, $5 million; new methods, $4.5 million; total, $39.5 million.

Public Health—Graduate training, $20.5 million; traineeships, $24 million; total, $44.5 million.

Health research construction, $50 million.

* * *

Both the Democratic and Republican 1968 national campaign platforms cited the importance of the role of private enterprise in the development of government health programs. The GOP placed greater emphasis on private medicine than the Democratic party did.

"While believing no American should be denied adequate medical treatment, we will be diligent in protecting the traditional patient-doctor relationship and the integrity of the medical practitioner," the Republication plank said.

The Republican platform also pledged "to encourage the broadening of private health insurance plans," including extension to cover mental illness.

"Through a partnership of government and private enterprise, we must develop new coordinated approaches to stem the rise in medical costs without lowering the quality or availability of Medicare care," the Democratic platform said.

Without being specific, the Democrats indicated support for universal government health insurance or, at the least, wide expansion of Medicare or Medicaid (or both). Boasting of "giant steps" in the past eight years "in assuring life and health for its citizens," their platform said: "We Democrats are determined to take those final steps that are necessary to make certain that every American, regardless of economic status, shall live out his years without fear of the high costs of sickness."

The Democratic health plank also said medical costs could be lowered by more out-of-hos-

Bill O'Malley

"That's just fine! Now, let's see if you can bend over and touch the floor!"

pital care, comprehensive group practice arrangements, increased availability of neighborhood health centers and the greater use of subprofessional aides.

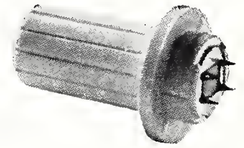
The Republican platform said that "inflation produced by the Johnson-Humphrey Administration" was a major factor in the increases in health care costs.

American Medical Association spokesmen appeared before the platform committees of both parties at pre-convention hearings. Dr. Donald E. Wood, Indianapolis, Ind., chairman of the AMA's Council on Legislative Activities, testified at the Republican hearing; Dr. John R. Kernodle, Burlington, N. C., a member of the AMA Board of Trustees, at the Democratic. Their statements were the same.

The AMA statement expressed hope that the next federal Administration, whether it be Democratic or Republican, "will provide men and women in medicine, and those engaged in the allied sciences, the opportunity to think and work in a free atmosphere to pursue their common goal of a better and more healthful life for everyone."

The AMA emphasized the desirability of health programs being partnerships among private enterprise and federal, state and local governments. The AMA pledged its support to such cooperative programs for mental illness, infant mortality, occupational health and safety and education of physicians and allied health personnel.

Tuberculosis? Influenza?
Pneumonia? Leukemia?
Hodgkin's Disease? Syphilis?
Systemic Fungal Diseases?
Chronic Chest Diseases?
or
HISTO?
(Histoplasmosis—"The Masquerader")



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Concerning health care costs, the AMA said:

"We believe that programs to increase the production of medical and other health personnel can be cooperatively and effectively undertaken. We are further firmly convinced that we can and must work toward a health in the inflationary spiral and toward a productive use of tax dollars expended in the health area. New and old tax supported programs in the health field should be critically evaluated so that while the best health care is attained, overlapping, waste and unnecessary programming are avoided. In this regard, we recommend the establishment of a cabinet-level Department of Health, headed by a physician as Secretary, with overall responsibility for all federal health programs, so that maximum effectiveness may be attained.

"We have always maintained that high-quality medical care should be available for all Americans, including those who need assistance in meeting the costs of such care. . . . Firmly convinced that adequate health insurance coverage is the choice mechanism for the financing of quality health care costs, we suggest that the country embark on a program of tax credits for health insurance premiums. Under such a plan, all individuals and families would be encouraged to provide themselves with health care cost protection, with those in financial need receiving the greater amount of tax credit on a graduated basis."

* * *

The Food and Drug Administration and the Pharmaceutical Manufacturers Association differed as to the significance of the findings of a Georgetown University School of Medicine-man team after studies comparing three brand-name drugs with their generic versions.

Drugs tested were diphenylhydantoin, prescribed for treatment of epilepsy, chloramphenicol and sulfisoxazole. The studies supported by the FDA showed the following:

1. Some generic drugs are absorbed more slowly by the body than the brand;
2. At least one generic drug was absorbed faster by the body than the brand drug;
3. Absorption rates were governed by such factors as crystal size of the drug, hardness of tablets, and the types of drug capsules.

"Our findings raise serious doubts about the equality of different products of the same drug in the treatment of disease," said Christopher M.

Martin, M.D., Professor of Medicine and Pharmacology.

"The studies by Dr. Martin and his research team, showing how different versions of the same drug behave differently in man, provide further proof of the scientific fact that these differences can be significant in patients," C. Joseph Stetler, PMA President said.

"Clearly, there is no evidence to indicate that all formulations of the same drug are equivalent. From all the evidence that has been developed to date, as Dr. Martin's studies point out, quite the opposite may be true."

On the other hand, FDA Commissioner Herbert Ley, Jr., M.D., said his agency "has in no sense concluded that 'generic' drugs are less effective as a class than 'brand-name' products."

"In my opinion, there are fewer than two dozen drugs where therapeutic differences among competing products may be a problem," he said.

"Data from the Georgetown work have been useful to the FDA, but it is completely unwarranted to reach any general conclusions about drug equivalency on the basis of these exploratory studies."

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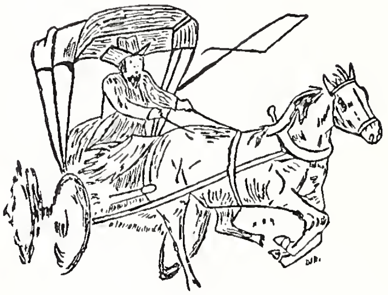
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

When he spoke at the graduating exercises at the Jewish Hospital School of Nursing in St. Louis, Morris Fishbein, M.D., of Chicago, Editor of JAMA, said: "The hospital of today is an entirely different institution from what it was 50 years ago. Then, it was frequently necessary to take the average citizen and beat him into unconsciousness before he could be gotten into a hospital. In fact, it was necessary to send a patrol wagon full of policemen into the slums when patients required removal to city institutions. Traditions were associated with hospitals which linger even today in the minds of the ignorant. It was not so long since it was practically unheard of for patients with medical diseases to go to hospitals. Today, many hospitals exist primarily for medical cases. Few people realize employing 150,000 physicians, 50,000 dentists, about 150,000 registered and trained nurses, 100,000 orderlies and associated attendants and a great many cooks, caretakers, elevator men, janitors and other workers. In all, about 2 million people take care of those who are sick. In 1880, there were about ten nurses' training schools, and last year there were 2,150. The cost of conducting hospitals is far larger than most people realize. At the Jewish Hospital, the cost is $6.85 a day to take care of a patient. The majority of people are not able to pay $6.85 a day. There are other hospitals in which the cost per diem is $10.50 for a patient. With such fees, the average middle class person would go into bankruptcy if he had to lie in a hospital two weeks. Therefore, the average person is not charged what it costs. He is charged what he can apparently afford to pay."

TWENTY-FIVE YEARS AGO

If other counties in Missouri should follow the recent action taken by St. Louis County officials in appointing a pathologist as a special aid to the coroner, it is reasonable to assume that a vast improvement in securing criminal justice would ensue. The wide publicity given the Melendes case in St. Louis once again has called attention to the necessity for pathologic services to aid the coroner's inquest.

During the last two months, there has been a mustering of medical and public opinion against the Wagner-Murray-Dingell Bill which indicates an awareness by the medical profession and the public of the tremendous stake that they have in this legislation according to the Journal of the American Medical Association for Sept. 4. The Journal calls for unity in the medical profession in the attack on the technique for rendering medical service proposed by this legislation. "The editorial published in the Journal of June 6 emphasized that this bill is an evolution of the National Health Conference of 1937. It pointed out that the measure was prepared without further consultation with the medical profession, that it would make the Surgeon General of the United States Public Health Service a virtual 'gaulciter' of American Medicine and that it would be, in fact, the acme of bureaucratic control of medical service."

TEN YEARS AGO

Two of the major bills in which medicine was interested during the recent 85th Congress are expected to be back when Congress opens its doors in January. One is the Keogh Bill which would have granted tax deferment on annuities purchased by the self-employed. The fact that it cleared the House and received sizable Senate support makes it look hopeful for next year. The second measure was the Forand Bill. This measure to provide free hospitalization for Social Security recipients died a hard death even though it never got out of committee. Its backers, mainly labor, promised to trot it out again in January.

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Missouri Medicine

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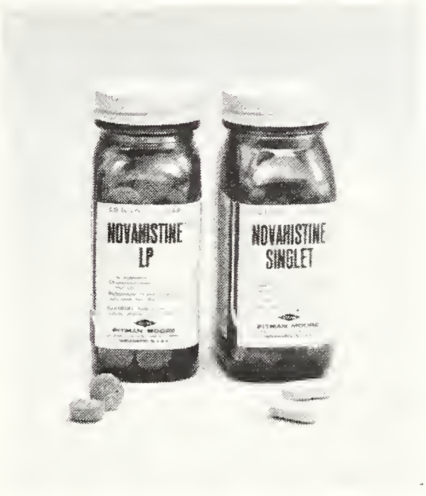

The Council Reports

—Special Meeting—

The Missouri State Medical Association Council held a special meeting in Kansas City on July 28, 1968 to consider progress to date and needed action on the proposal for the study of medical care costs in Missouri which was approved by the House of Delegates at the 1968 MSMA Annual Session.

Present at the meeting were Drs. Joseph L. Fisher, St. Joseph, chairman; Byron M. Stuart, Boonville; Walter B. Gunn, St. Louis; E. A. Stricker, St. James; David N. Kerr, St. Louis, MSMA President; John I. Matthews, Jefferson City; W. D. English, Cardwell; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar, MSMA President-Elect; Howard J. McAlhany, Springfield; Hector W. Benoit, Jr., Kansas City; Lysle M. Bach, Hannibal; John A. Buesseler, Columbia; and Messrs. Allen D. Smith, Kansas City; Bob Carroll and Ray McIntyre, Jefferson City.

After opening the meeting, Dr. Fisher requested opinions in regard to (1) the recent proposal of the Research Center of the School of Business and Public Administration, University of Missouri-Columbia, which is now before the Missouri Regional Medical Program, asking for MRMP funding to carry out the study of health care costs in Missouri and (2) whether or not the proposed study with MRMP funding should have the support and cooperation of the Missouri State Medical Association.

Dr. Fisher reviewed the discussions of this proposal during a recent meeting of the Ad Hoc Committee at which Dr. Buesseler, chairman of the Ad Hoc Committee, reported the University of Missouri Research Center's interest in conducting the study using MRMP funds, if available.

Dr. Stuart reported and commented on the meeting of the MRMP Liaison Committee in Columbia at which the plan for the proposed study was considered. He said that he thought this proposal should be acted upon by the MSMA House of Delegates.

Dr. Buesseler discussed the entire proposal and said that the study is tailored for Missouri physicians. He added that other organizations that have shown a positive attitude toward the study are the Missouri Association of Osteopathic Physicians and Surgeons, Missouri Hospital Association and Missouri Pharmaceutical Association.

Dr. McCraw referred to an article in a recent edition of The Journal *of the American Medical Association* which replied to charges of high medical costs. Whether or not the article adequately answered those charges was the subject of considerable pro-and-con discussion.

All Council members at the meeting participated in a detailed discussion concerning major aspects of the proposed study, such as proper and available funding, sponsorship by MSMA or cooperation in sponsorship, implementation of the study, types of questions to be included in the study and the manner of dissemination of the results of the study. Dr. Buesseler stated that the MRMP would not consider financing the study if the MSMA Council disapproved.

After Dr. Kerr emphasized that funding the study was the principal problem, Dr. Benoit cited the urgent need for the study at this time and introduced the following motion in the form of a resolution:

> Whereas, the Missouri State Medical Association House of Delegates in 1968 evidenced its support and cooperation of a study of health care costs in Missouri, therefore be it
>
> *Resolved*, By the MSMA Council that it enthusiastically supports the current project proposal submitted to the Missouri Regional Medical Program by the Research Center, School of Business and Public Administration of the University of Missouri, to investigate and analyze the cost of health care services in Missouri and will pledge its cooperation in conducting the study.

The motion was seconded and approved by a vote of 7 to 4.

The Council then directed the Executive Secretary of MSMA to send a letter which will state the action of the Council evidencing its support of and cooperation in the study to Dr. Buesseler for presentation to the MRMP Liaison Committee and MRMP Advisory Council.

The Council then adjourned.

(The MRMP Advisory Council at its August meeting disapproved the request of the Research Center of the School of Business and Public Administration, University of Missouri, for MRMP funding to carry out the proposed study of health care costs in Missouri.)

This Council report covers the highlights of this meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

Make Your Plans and Reservations Now!

MSMA 111th ANNUAL SESSION

Chase-Park Plaza Hotel March 20-23, 1969 St. Louis

MSMA News

Plans Progress For Annual Meet

The program is fast taking shape for the 111th Annual Session of the Missouri State Medical Association scheduled for March 20-23, 1969 at the Chase-Park Plaza Hotel at St. Louis.

In charge of developing the scientific program for the session is the Scientific and Postgraduate Work Committee of the Missouri State Medical Association under the direction of Chairman Dr. Richard W. Yore of St. Louis.

A number of specialty medical organizations in Missouri will be participating in the annual session by sponsoring specific programs.

Featured speakers at the two general luncheons have already been named. Robert L. (Bob) Burnes, executive sports editor of the St. Louis Globe-Democrat, will be the speaker at the Friday noon luncheon. Then, the Saturday noon luncheon will feature Dr. Durward Hall, Member of Congress, from Springfield.

Sessions on subjects of great current scientific interest are being scheduled for the annual session along with programs on economic topics of interest to physicians. Outstanding speakers are being secured for the meeting—men who are experts in their fields.

The House of Delegates of the Missouri State Medical Association will hold three sessions during the annual meeting. The House is scheduled to meet Thursday and Friday afternoons and Sunday morning.

County Society Officer's Conference In Jefferson City, Jan. 11-12, 1969

The Second Annual County Society Officer's Conference of the Missouri State Medical Association has been scheduled for Saturday and Sunday, Jan. 11 and 12, 1969 at the Ramada Inn, Jefferson City.

Officers and legislative and public relations committee chairmen of all county societies as well as MSMA officers will receive special invitations including pre-registration cards. The conference is open to all members of the Missouri State Medical Association. Those who plan to attend and do not have pre-registration blanks should contact the Association office, Box 1028, Jefferson City, Mo. 65101. All those desiring overnight accommodations should make arrangements directly with Ramada Inn.

The Second Annual Conference will have as its theme "Super Bowl Huddle" since it is being held the weekend of the Super Bowl football game at Miami. Arrangements have been made for viewing the game on television Sunday afternoon after the conclusion of the conference at noon. A buffet luncheon will be served.

The conference will give local society officers and association members an insight into the workings of organized medicine at all levels and will answer questions concerning operations of local and state medical societies and the AMA.

Saturday, January 11

The meeting gets underway at 1 PM Saturday, January 11 with an address of welcome by Dr. Gerald Miller, Kansas City, chairman of the Public Service Committee which is sponsoring the program. Others on the Saturday program include Mr. James Reed, director of the AMA Communications Division; Dr. Thompson Potter, St. Joseph, a member of the State Advisory Council on Comprehensive Health Planning and chairman of the MSMA committee in this field; Mr. Kenneth Bopp, director of the State Comprehensive Health Planning Agency; Dr. John Matthews, Jefferson City, chairman of the MSMA Legislative Committee; and two legislators whose names will be announced later.

There will be a banquet Saturday night after a 6 PM Association-sponsored social hour. Banquet speaker will be Mr. Robert M. White II, publisher of the *Mexico, Mo. Ledger* and former editor and president of the New York Herald Tribune.

Sunday, January 12

Sunday morning's program opens at 8:30 with a session on Organized Medicine featuring Dr. Arthur Neilson, St. Louis, an AMA delegate; MSMA President Dr. David N. Kerr, St. Louis; and Dr. Wilson J. Ferguson, Sikeston, president of the Semo County Medical Society.

Those in attendance wil be divided into discussion groups from 9:30 until 10:45 AM. An officer's workshop at 11 AM will feature President-elect Dr. Doyle C. McCraw, Bolivar; Executive Secretary Mr. Raymond McIntyre and an AMA Representative.

The meeting will be concluded with a report by discussion leaders starting at 11:30 AM. A buffet luncheon is planned for noon with television coverage of the Super Bowl game to follow.

Tickets for the Saturday evening banquet and the Sunday buffet may be purchased at the Conference registration desk. Wives are welcome at all sessions of the conference but are especially invited to attend the social hour, banquet and buffet.

M.U. Curators OK Kansas City Medical School

The University of Missouri Board of Curators has given approval to the establishment of a medical school at the University of Missouri-Kansas City.

Establishment of such a school had been urged earlier this year in a resolution passed by the Missouri State Medical Association House of Delegates last March.

The Curator Board's resolution made the establishment of the new medical school contingent on state funding over and above the regular budgeted needs of the University.

William C. Myers, Jr., President of the Curators, said the University would ask the 1969 Legislature for planning funds for the medical school.

Myers said a capital fund request for the school of medicine would not be made until the university's 1970 budget is submitted to the state, but that the school could be ready to accept a class of 32 for the 1970 fall term.

Dr. Vernon Wilson, M.D., vice president for academic affairs, said the first class could be accepted without capital expansion, classroom space being available in the university's new dental school. The Kansas City Medical School would be ready to accept its first full class of 100 students in 1975, according to Dr. Wilson.

The curators were acting on the recommendation of the Missouri Commission on Higher Education that a medical school be established in Kansas City to produce the 100 additional doctors yearly needed to forestall the growing physician shortage in Missouri.

The Higher Education Commission also had considered contracting with the state's four private schools — two medical and two osteopathic — or expanding the medical school at Columbia

Figures given to the Commission by the university indicated that the cost of educating a student at the U.M.K.C. Medica School would be about $3,632 a year.

The total capital cost of the medical school would be $13,224,100, according to the university figure. Of that sum, the state would need to provide $3,096,698 with $8,556,269 coming from federal funds and $1,571,133 from other sources including Jackson County bond money.

The U.M.K.C. Medical Schoo would be operated in connection with the new General Hospita and Medical Center and Children's Mercy Hospital.

St. Luke's Hospital would ac as a backup facility to the medical school if needed.

Rules Chiropractor Not Physician

Missouri Attorney General Norman Anderson has issued an opinion that a chiropractor is not a physician. The opinion was issued in answer to a request from a member of the Missouri Legislature.

The ruling noted Webster's dictionary which defines "physician" as "one skilled in the art of healing; esp. by medicine; a doctor of medicine."

The attorney general said the chiropractic licensing statute defines chiropractic as the palpation and adjustment by hand of the movable articulations of the spinal column for the correction of the cause of abnormalities and deformities of the body and also specifically states that the practice of chiropractic is not the practice of medicine and surgery.

The opinion said the language of the statute indicated that the legislature did not intend to license a chiropractor to practice as a physician. It said the statute relating to licensing of doctors of medicine and osteopathy also makes it clear that only doctors of medicine and osteopathy are considered physicians.

New Feature

This two-page insert is a new feature of Missouri Medicine. It is designed to alert members of the Missouri State Medical Association to current projects and problems of their Association.

It will provide a new communications link between Association officers, Council members and staff and the general membership.

Your suggestions concerning ways to make this insert meaningful to Missouri physicians are welcomed.

Court Verdicts Concern Physicians

The Missouri Supreme Court has returned two important verdicts which concern physicians in this state.

One upheld the confidentia physician-patient relationship by refusing to let a Kansas City doctor inspect the hospital records of 55 other staff physicians The decision reversed a circuit court order proposing that patient records be produced, but with the names deleted.

The other court decision concerns the statutes of limitations in malpractice actions. The high court in the state ruled that a suit for malpractice against a physician must be brought within two years of the alleged act of negligence — not within two years after it is discovered by the patient. The ruling was based on the special malpractice law passed by the Missouri Legislature.

Special Feature

Should the FDA Control Medical Devices?

'FDA will not act arbitrarily or capriciously'

By
PAUL A. PUMPIAN
Director, FDA Office of Legislative Services

Two bills now pending in a House subcommittee are vital to the burgeoning medical device industry and to health professionals and their patients. One would give FDA power to regulate a variety of therapeutic medical devices and implants; the other bill would set up a commission to study the field before new legislation is enacted.

Four top spokesmen analyze the pros and cons of the two bills. Each outlines the solution he feels is in the best interest of patient care in the following articles which are reprinted from *Medical-Surgical Review*,* Second Quarter, 1968.

UNLIKE DRUG PRODUCTS, medical devices are not cleared by the Food and Drug Administration before going on the market. Only when FDA can establish in court that a device is unsafe or mislabeled can the regulatory sanctions of seizure, injunction and prosecution be imposed.

Now before Congress is a bill giving FDA authority to clear certain medical devices before marketing. This legislation (HR 10726), the Medical Device Safety Act, was recommended in 1967 by President Johnson because of revolutionary advances in medical instrumentation since the original legislation was enacted in this field nearly 30 years ago.

Innovation must be encouraged. Yet, patients and physicians are entitled to the assurance that a particular device has been tested and found to be safe, reliable and effective. This assurance cannot now be given. Instead, physicians and other health professionals must rely almost entirely on manufacturers' claims.

Formulated after many conferences between the FDA, the device industry and the scientific community, the Medical Device Safety Act is tailored specifically to the medical device area because this field is not comparable to the drug industry. Thus, when feasible, the bill authorizes standard-setting in lieu of preclearance which, itself, will diminish as standardization increases.

One fear inevitably voiced is that the extremely broad coverage of the Federal Food, Drug and Cosmetic Act will be carried over to the pending bill. But the range of devices subject to preclearance and standardization is considerably narrower in the proposed legislation. All diagnostic instruments are exempt. All therapeutic devices which experts recognize to be safe and effective for their intended uses also are exempt from preclearance. And, finally, custom-made devices and those under study by qualified investigators will be exempt from preclearance as well.

The instruments that would require preclearance—unless specifically exempt—are those to be implanted in the body or placed in contact with mucous membranes for protracted periods, those delivering such forms of energy to the body as laser or ultrasound beams and those placed in the body for communication with external equipment. For devices not covered in these categories, new data will have to be submitted for preclearance only if FDA shows probable cause to believe they are unsafe or ineffective. Use of this "special order" is very restricted, though, and so it should not be construed as bestowing broad authority on FDA.

One question which continues to plague interested parties, "Who will determine the efficacy of a device?" We admit we will have to develop our resources in this area and consult experts in and out of government. The physician's expertise is recognized in the bill, which specifies that in pre-marketing evaluation of a device, "its safety, reliability and effectiveness shall be determined *in the light of [its] intended use*" (emphasis added). The skill of physicians is vital in this area.

---

* Medical-Surgical Review is a Chapman-Rheinhold publication.

RESEARCH TO BE ENCOURAGED

Of paramount importance is the question, "How will this legislation affect research with medical devices?" All devices made to doctors' specifications are exempt. Investigators may design and experiment with medical instruments unless the work is geared to support a device-clearance application (DCA). Only when research takes on commercial aspects will submissions to FDA become necessary. By using broad language in the investigatory exemption, we have attempted to insure that research efforts are not impeded. As a matter of fact, a restrictive interpretation of this section would undoubtedly be stricken down by a reviewing court.

In summary, the bill:

- exempts from preclearance purely diagnostic and veterinary devices, those made to order of physicians, those generally recognized as safe and effective—the Secretary of HEW must list these—and all those that either are already subject to a standard or for which a standard is contemplated;
- provides great latitude for research with devices, giving FDA authority to evaluate only when investigational devices enter the commercial stage;
- requires preclearance for devices used in the body or that emit certain types of energy to the body. A "special order" would be required to bring other devices under preclearance regulations;
- establishes standard-making authority over all devices that are not for diagnostic uses;
- allows the Secretary of HEW to consult outside experts in making decisions and gives all affected parties the right to similar consultations;
- requires standards and reports from manufacturers and authorizes both inspections and regulations to assure good manufacturing practices;
- provides for administrative and judicial appeal.

You should not feel that FDA will use the bill to act arbitrarily and capriciously. You should assume just the opposite because of the procedural safeguards and statements of intent that are built into it. This legislation provides safeguards needed to protect the public interest and does not impose unreasonable burdens on the device industry or on the scientific community.

'I see no clear need'

By
HON. ED REINECKE
Member of Congress (R—Calif.)

OVER THE PAST TWO DECADES, biomedical and electronic engineers have brought to medicine a wide range of sophisticated and sensitive diagnostic and therapeutic equipment. There is no doubt that the instruments and devices of today's laboratory, hospital and office have contributed substantially to bettering the health and well-being of the American public.

Knowing that there are potentials for abuse in any rapidly expanding new field, the medical profession has rightfully assumed a major role in evaluating the safety and efficacy of devices. Since the practitioner ultimately bears responsibility for his patients, no one is better qualified than he to judge the reliability or suitability of specific devices for specific cases.

If the physician is responsible to the patient, the industry is responsible to the practitioner. The device manufacturers must meet the exacting standards demanded by the doctors who use their products. In my judgment, this partnership between medicine and industry has been outstanding. In cases of device quackery, the FDA has the authority to remove from the market "devices" which are clearly frauds, hazards to public safety or unreliable.

But new medical device legislation is now pending in Congress. The FDA, although already armed with considerable controls, has proposed that elaborate machinery be established for pre-market clearance of nearly every device that is not designed for diagnostic or veterinary uses. Also, it would establish standards regarding the properties, composition and performance of devices not requiring pre-market clearance. A few existing devices would require no standards—but the Secretary of HEW still would oversee them and take action at his discretion. Moreover, a member of the FDA has assured me that diagnostic instruments will come under the agency's aegis in the near future.

As a legislator, I feel that the proponents of this bill must answer to my satisfaction three questions. First, is there a need for the proposed legislation? Second, how would it operate? And, finally, is this the best way to achieve the desired ends?

In the light of these three questions, I see no justification for passing the Administration's device legislation at this time. There is no clear need for this legislation. We do not yet have the information we need to evaluate any legislative proposal that would place cumbersome and somewhat dubious controls on the device industry and on the freedoms of the health professions. Is the public's health and safety so threatened that Federal laws are required to clear devices entering the market-place? Or has the FDA in its zeal to control quackery—a zeal which we all applaud, I might add—confused legitimate devices with fakes? The medical equipment that the proposed legislation would most stringently affect includes those devices that are relied upon by health professionals, not the miracle machines promoted by charlatans and fake healers.

Nor does the Administration have the facts to substantiate its proposal. The language, for example, is vague and ambiguous; the categories for pre-market clearance, broad and imprecise. Yet, even though answers offered by the FDA to questions put to it by practitioners and manufacturers are unclear, confused and, sometimes, even contradictory, the Administration is still certain of one thing: It says the time to act is now. This is despite the fact that many of the problems in the device field haven't ever been explored.

Study Commission Proposed

It is for this reason that I am sponsoring legislation calling for a National Device Commission to determine the need for and extent of Federal regulation of devices and to study the best way to develop and implement device standards. Let me say, though, that my own investigations have revealed that device manufacturers and health professionals, working together, do carefully weigh the effectiveness and reliability of specific medical instruments. But there may be sound justification for the industry and the professions to expand these voluntary efforts by setting up meaningful standards so that all devices put on the commercial market will be safe, reliable and effective.

No one—except, perhaps, members of the FDA—pretends to have a solution to the problems involved in establishing device standards. And no one—except perhaps members of the FDA—pretends to be able to explain how these standards can protect the public's safety any better than it is now protected by the professional and competitive arrangements of the private sector. But I can assure you that Congress will not act hastily. Legislative action can be justified only after evidence has been gathered and evaluated in depth.

'Health professionals favor a detailed study'

By
ARTHUR BEALL JR., M.D.
President, Association for the Advancement of Medical Instrumentation

The recent, rapid advances in medical instruments and devices have given this equipment an increasingly important role in providing health care. But as is inevitable in any field in which progress is so rapid, problems have developed.

The vast majority of these problems do not relate to the safety, reliability or effectiveness of devices, but to differences in terminology, to lack of compatibility and to what might be called the state of the art. Two examples of terminology problems are the size designations of artificial heart valves—different for each manufacturer—and test loads used for reporting output of cardiac pacemakers—300, 500, or 1,000 ascending nodes. Such problems are common in any developing field.

Similarly, compatibility of different manufacturers' products will come only after the industry has resolved many technical difficulties. Today, for example, jacks on pacemaker leads cannot be attached to pulse generators that are made by different manufacturers. This drawback relates largely to the current state of the art. In other words, additional experience must be gained before we know which type of connection is the safest, most reliable and most effective. This cannot be accomplished by Federal edict. Ironically, one important area of incompatibility that might be solved by federal decree, that involving different patient lead cables for attachment to various makes of monitoring equipment, is totally excluded from FDA's bill.

Many professional and trade organizations recognize these problems and are trying to solve them. The Association for the Advancement of Medical Instrumentation's standards committee, for example, now is attempting to identify the various groups working in the area of standards for medical devices and learn what they have accomplished. This basic information is not now available, and it must be compiled and evaluated before any rational legislation can be enacted.

The crux of the matter of legislation is, "How serious are the problems, and what is the best way to solve them?" Do these problems really relate primarily to safety, reliability and effectiveness, as some would lead us to believe, or to a rapidly advancing field in which the state of the art is changing daily? I admit I do not have all the answers. Perhaps the easiest solution would be to let the FDA worry about these problems and solve them for us. This might be the easiest remedy, but I remain to be convinced that it will be the best for proper patient care.

I have discussed the situation with physicians, engineers, lawyers, members of the device industry and FDA officials. Several facts have become apparent: First, the need for blanket federal control has not been clearly established; Second, there is inadequate information available on what has been done and what is now being done in the area of standards on which to base effective mechanisms for federal standard-setting authority; Third, health professionals have already told the FDA that overzealous regulation of devices might restrict their ability to provide the best possible health care. These fears were inadequately considered when the Medical Device Safety Act was prepared. Finally, the health professions appear to overwhelmingly support the idea of setting up a national devices study commission. Many professional organizations already are on public record endorsing such a study.

No one questions the motives of individuals currently in the FDA. Times change, though, and the proposed legislation must be evaluated in the light of the activities that it makes possible, not by how it would be implemented by specific individuals. The health professions and industry are concerned, and rightly so, that the Medical Device Safety Act could allow many safe, reliable and effective devices to be removed from the market, and prevent others from becoming available.

FUTURE OF DEVICES IS AT STAKE

While the FDA-backed bill provides for an independent advisory committee to help resolve issues, this consultation is not required by the bill. Furthermore, although the producer of a device that is adversely affected by a regulation may request a consultation with an advisory committee, the manufacturer can be required to pay in advance all expenses the referral would involve. A crucial point here is that the yearly market for some lifesaving devices does not justify such expenditures. The obvious result: Many important devices may no longer be available.

Moreover, even if a currently available device is exempt from free-market clearance because it is recognized by experts as safe, reliable and effective, what if it can be improved? If it is an implantable device, does the change in construction for the improvement than subject it to preclearance? Consider the manufacturer's expense: Will he then not be reluctant to improve his devices?

I would prefer to have all these potential problems eliminated in the specific language of the legislation that is finally enacted. Meanwhile, in such a complicated situation, I urge that a careful and specific diagnosis be made, perhaps by a national device commission, before potentially dangerous therapy is instituted.

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'Clearly defined authority is warranted'

By
THEODORE J. CARSKI
Chairman, Government Liaison Committee,
Medical-Surgical Manufacturers Association

THE MEDICAL DEVICE INDUSTRY is composed of many different types of often unrelated businesses, a situation with few parallels in the nation. Consequently, among device manufacturers, there is no recognized single body that has the expertise to evaluate devices which are now on the market or which might be developed in the future. And it follows that under the circumstances it would be particularly difficult to establish a uniform code and to administer it both intelligently and effectively.

This does not mean that the Medical-Surgical Manufacturers Association opposes government regulation or additional legislation. In fact, it favors specific legislation in those instances where there is no remedy in existing law for illegal or potentially hazardous devices. These devices must be upgraded or eliminated.

However, the far-reaching powers that the agency would have under the medical device safety bill are entirely too broad. Because the wording in the bill is so general, FDA might assume jurisdiction over medical devices of every description, from simple hospital furniture, like a foot stool, to such sophisticated instruments as cardiac pacers, to products that still are on the drawing boards—artificial hearts, for example.

FDA spokesmen emphasize that some devices are exempt from this broad legislation, and we are told that hearings will establish the intent of the bill. We, in industry, suggest that national legislation be written to the needed specifics now. We should not regard legislation by the intent of the present administration, because future administrators might introduce broader interpretations of the bill.

We'd all be understandably concerned if the nation were confronted by a suggestion to ban the sale of liquor to make our highways safer. Regimenting the entire population in this way because of the relatively few drunk drivers is obviously not a reasonable answer to this problem. Nor would it be for the medical and surgical device manufacturers if virtually all our products were subjected to blanket legislation intended to root out the relatively few illegal devices. The bill provides an elephant gun to kill a mosquito.

One particularly undesirable consequence of the proposal would be the stifling of what is now extremely close collaboration between industry and the health professions. Devices are the tools of medicine, frequently made to the design specified by the physician or hospital-based professional. As device manufacturers, we regard ourselves as a significant force in the development of new techniques for better patient care. In recent years, industry's voluntary—and sometimes costly—participation in device development has led to such noteworthy innovations for medicine as gas endarterectomy devices, cardiac pacers and cryoprobes, to name a few. Overly restrictive regulation of new devices might make it commercially impractical for manufacturers to continue to offer custom services to individual specialists.

Instead of encouraging the expansion of our efforts in this area, broad regulatory powers vested in the federal government would prompt

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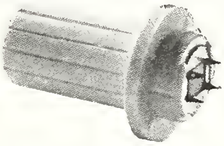

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us to rely on proven methods and instruments. Innovation, always the backbone and certainly the future of better patient care, will be excluded. Only by permitting the traditional cooperation between industry and the professional will medical technology continue to grow as it has in the past decade.

Alternative Bill Recommended

New legislation should be approached in close union with all those who are involved in the total health community and only after federal authority under existing legislation is fully utilized. Where specific legislation is required to solve existing problems, it should be limited to areas of need.

We feel that new legislation would most benefit patient care only if the authority it bestows were spelled out in specific terms. Therefore, as an alternative to the medical device safety bill, we recommend legislation providing for:

1. Pre-market clearance, *restricted specifically to implants and therapeutic devices.* Devices custom-made for physicians, those not generally available in finished form and those marketed before the law becomes effective, would be exempt from preclearance.
2. Extension to all devices the requirement that they be manufactured, processed and packaged in accordance with good manufacturing practices. Industry would be subject to inspections under this provision.
3. A mechanism for submitting periodic reports and records on all devices for which premarket clearance is necessary.
4. Plant registration requirements for all firms that manufacture medical devices.

The Medical-Surgical Manufacturers Association feels that such a bill would set up only the necessary regulatory powers; it would not require complex provisions to exclude those devices that are not to be covered. We are confident that such a bill would give FDA adequate added powers without hampering progress and development in the device field.

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Notes of interest from Here . . . . and There

Dr. Stan London, St. Louis, an associate of the late **Dr. I. C. Middleman**, will succeed him as team physician for the St. Louis Cardinals baseball team. A one-time Washington University basketball and baseball star, Dr. London served as team physician for the Hawks during their 13-season period in St. Louis and both he and Dr. Middleman were team physicians for the St. Louis soccer Stars the past two seasons.

Dr. George Lynn Watkins, Farmington, was named an Outstanding Citizen of his community recently. Dr. Watkins was one of three original founders of the Medical Arts Clinic in Farmington and has seen its expansion and growth to the point where it now houses offices for nine doctors and serves residents from a four-county area. He also has been active formulating and putting into action plans for the impressive new hospital now being constructed in Farmington. In addition to the demands of his practice, Dr. Watkins has managed to devote a great deal of his "extra" time to various civic and business organizations.

Dr. Carl Almond of the Department of Surgery, University of Missouri Medical Center, was given an American Medical Association Certificate of Humanitarian Service at a recent meeting of the Boone County Medical Society. Dr. Almond recently returned from South Vietnam where he served on a voluntary medical mission treating injured and ill civilians. The volunteer program is part of the AMA Volunteer Physicians for South Vietnam.

William C. Banton, II, M.D., Tuberculosis Controller, City of St. Louis, and Instructor in Internal Medicine, St. Louis University School of Medicine, has been appointed to the International Committee on Tuberculosis. He presided over its seminar session during the Tenth International Congress on Diseases of the Chest in Washington, D. C. on October 4.

Frank K. Woolley has been employed as Executive Director for the Association of American Physicians and Surgeons in Chicago. Since January, 1961, Mr. Woolley has been with the Field Service Division of the American Medical Association first performing field work and, more recently, research in public affairs. He has had 30 years experience in Washington, D. C.

Another trip abroad for **MSMA members** and their wives is being announced and sponsored by the St. Louis County Medical Society. The itinerary for this two-week South American Adventure trip will include Quito, Ecuador; Buenos Aires, Argentina; and Rio de Janeiro, Brazil, where medical seminars and hospital visits will be offered to the professional members of the group. Departure date from St. Louis will be March 27, 1969.

Doctor, MSMF Needs Your Help!

MISSOURI STATE MEDICAL FOUNDATION
515 East High Street
Jefferson City, Missouri 65101

Dear Doctor:

Never before in the history of our state and nation has there been as much concern about the need to train additional physicians to serve mankind.

The Missouri State Medical Association recognizes this need and has worked in a number of ways so that additional young citizens of our state have the opportunity to be trained in the medical profession. At the moment, your Association is on record as being in favor of the establishment of a new medical school in our state and other methods to train more physicians.

One program which already has had outstanding success is the Missouri State Medical Foundation's loan fund made possible by your generosity.

The Foundation's program has made more than 500 loans to Missourians so they could attend medical school—loans which may be paid back on a long term basis after the recipients have begun the practice of medicine. More than $270,000.00 has been loaned to Missourians.

This year, at least 24 Missourians are attending medical school who might not have been able to continue their education without a loan from your Missouri State Medical Foundation.

Some of the loan recipients are repaying their loans so that the money may be made available to others. It will still be quite some time, however, before the program can become self-sustaining.

Missouri physicians who belong to the Missouri State Medical Association will, by assessment, give $10 each to the Foundation next year, making its program even more effective.

Despite these generous gifts, more money is needed so additional students can attend medical school and become Missouri physicians of tomorrow. I am sure you would not want the Foundation to turn away any deserving student because of a lack of loan funds.

Won't you send your contribution today to the Missouri State Medical Foundation? Donations to the Foundation are tax deductible.

Sincerely,

Paul R. Whitener, M.D.

President

SPONSORED BY THE MISSOURI STATE MEDICAL ASSOCIATION

(Please turn to page 939)

HARRY S. JONAS, M.D., ***Independence***

Maternal Welfare Committee Report for 1967

The Committee on Maternal Welfare of the Association, divided into an Eastern and a Western section, studies maternal mortalities in the state each year and reports at the time of the Annual Session. This is the report for the year 1967.

In 1953, THE STATE OF MISSOURI began its first effort to study and review maternal deaths. Prior to that time, Missouri was one of the few remaining states without a permanent committee for this purpose. For some time before 1953, the St. Louis Gynecological Society had sponsored a Maternal Welfare Committee. With the organization of a similar committee by the Kansas City Gynecological Society in 1953, however, a statewide effort of maternal death analysis became a reality with the St. Louis organization being responsible for the eastern half of the state and the Kansas City organization for the western half.

The functions of these committees are primarily twofold:

(1) To review maternal deaths under the care of doctors of medicine in the state of Missouri.

(2) To analyze this material and utilize it for educational purposes in an attempt to decrease maternal mortality.

It was 14 years ago—in 1954—when Dr. Gerald L. Miller of Kansas City presented the first report on *Major Causes of Maternal Deaths in Missouri* to the annual meeting of the Missouri State Medical Association. Since that time, yearly reports with detailed analyses of maternal deaths occurring in this state have been presented at the Committee on Maternal Welfare Luncheon.

This report constitutes the 14th annual review of maternal deaths occurring in the state of Missouri for the year beginning Nov. 1, 1966, and ending Oct. 31, 1967.

For those who may not be familiar with the procedures followed in the analyses of these cases, a brief review may be in order. Copies of the death certificates, in which the patient was under the care of a doctor of medicine and in which pregnancy was associated within 90 days of the death, are mailed to the respective committees by the Bureau of Maternal and Child Health of the Division of Health of Missouri. The physician who signed the certificate is notified by letter that he will be contacted by a member of the committee for a review of the case. Following this, the case is presented for review by the entire committee. The physician, whose case it is, is invited and encouraged to attend. Following the presentation to the committee, discussion is held and, then, the case is classified in regard to the type of death, obstetrical or nonrelated. If obstetrical, it is classified as direct or indirect, and avoidable factors are listed. The terminology used is that of the *Guide for Maternal Death Studies*[1] published by the American Medical Association in 1957. Classifications are as follows:

A *direct obstetric death* is defined as a "death resulting from complications of the pregnancy itself, from intervention elected or required by the pregnancy or resulting from the chain of events initiated by the complication or the intervention."

An *indirect obstetric death* is defined as a "death resulting from disease present before or developing during pregnancy (not a direct effect of the pregnancy) which was obviously aggravated by the physiological effects of the pregnancy."

A *nonrelated death* is defined as a "death occurring during pregnancy or within 90 days of its termination from causes not related to the pregnancy or to its complications or management."

The committees function in an educational atmosphere with no consideration of punitive action. Consultants in various specialties of medicine and general practice are invited to attend the meetings and participate in the discussion.

The educational value of these sessions to the committee members, to resident physicians in obstetrics and to other physicians who attend is immeasurable. The enthusiasm for these committee efforts has not diminished in 14 years.

During the year from Nov. 1, 1966 through Oct. 31, 1967, 33 cases of maternal death have come to the attention of the committee; 20 are from Eastern Missouri and 13 are from Western Missouri (Table 1). This figure excludes cases under the management of doctors of osteopathy, midwives and others who attended approximately 10% of the total number of live births in the state of Missouri in 1966. Other cases may have escaped the committee's attention when the death certificate failed to indicate a relationship to pregnancy and, thus, were missed in the screening process by the Bureau of Maternal and Child Health. During this year, there were 73,699 live births. Calculation of the Maternal Death Rate for 1966-1967 produces a figure of 4.5 per 10,000 live births. This compares with a figure of 4.2 per 10,000 live births reported in 1965-1966 by Dr. Seymour Monat of St. Louis. In that year's report, a total of 31 deaths were reported, the lowest number analyzed by the committee since its beginning.

TABLE 1

MATERNAL DEATHS IN MISSOURI
1966-1967

Total number	33
Geographic distributions:	
Eastern Missouri	20
Western Missouri	13
Gross maternal death rate (per 10,000 live births) (Based on 73,699 live births)	4.5
Obstetric deaths	25
Non-related deaths	8
Obstetric death rate (per 10,000 live births)	3.4

When one considers the dramatic improvement in maternal death rates in the United States during the past 50 years, it is easy to conclude that very little further improvement is possible.

Yet in analyzing the rates of maternal deaths during these years (Table 2), it is seen that an approximate 50% reduction in the maternal death rate occurred in the decade between 1930 and 1940 and a similar 50% reduction has occurred during each *five*-year period since then. Since 1955, however, a much slower reduction of maternal deaths has occurred.

TABLE 2

MATERNITY MORTALITY RATES IN U. S.
(Maternal Deaths Per 10,000 Live Births)

1920	68.0
1930	63.6
1940	37.6
1945	20.7
1950	8.3
1955	4.7
1960	3.7
1965	3.2

Comparing Missouri's gross maternal death rate with that of the national gross maternal death rate, which was reported in 1955 as 3.2, this state with a rate of 4.5 still ranks well above the national average. During the period from 1961 to 1963 (three-year average), the highest maternal mortality rates occurred in the states of Mississippi (8.4), Alabama (7.5), South Carolina (6.5) and the District of Columbia (6.4). The lowest maternal mortality rates occurred in Minnesota (1.1), Rhode Island (1.3) and Vermont (1.5). Also during this period (1961-1963), Missouri (with an average gross rate of 3.44) ranked highest in maternal deaths of seven states in the West North Central region comprising Minnesota, Iowa, North and South Dakota, Nebraska, Kansas and Missouri.[2]

Of the 33 deaths occurring in Missouri in 1966-1968, 25 were classed as obstetrical deaths and eight as nonrelated deaths. Perhaps more significant to those doing obstetrics is the corrected or obstetric death rate—the number of obstetrical deaths per 10,000 live births—which calculates to 3.4 per 10,000 live births for 1966-1967. This is only slightly higher than the obstetric death rate of 3.0 per 10,000 live births reported last year.

Table 3 lists the causes of the eight non-related deaths which were equally divided between Eastern and Western Missouri. Five of these

TABLE 3

NONRELATED DEATHS—8

1. Advanced mitral stenosis, pulmonary edema
2. Severe mitral valvular disease, cardiac arrest
3. Stroke from A-V malformation
4. Subarachnoid hemorrhage
5. Myocarditis
6. Probable cerebral lesion (abscess or neoplasm)
7. Septicema due to small bowel obstruction and perforation due to ulcerative colitis.
8. Cancer of the breast.

eight cases were deaths from cardiovascular disease.

There were 25 obstetric deaths, three more than reported last year.

A detailed breakdown of the causes of these deaths is shown in Table 4.

It is interesting to note that of the total number of obstetric deaths, only seven or 28% were due to hemorrhage. This is a much lower percent figure of deaths as compared to past years. For example, last year 41% were deaths due to hemorrhage and 64% hemorrhage deaths were reported in 1956.

TABLE 4

OBSTETRIC DEATHS—25

Causes:
***Hemorrhage*—7**
- **2 Abruptio placenta**
- **Placenta accreta**
- **Post partum hemorrhage (possible ruptured uterus)**
- **Coagulation defect—splenic laceration**
- **Undelivered mole**
- **Probable ruptured ectopic**

***Toxemia*—4**
***Induced Abortion*—6**
- **5 From sepsis**
- **1 Pulmonary embolism**

***Other*—8**
- **4 Amniotic fluid embolism**
- **2 Pulmonary embolism**
- **1 Pulmonary edema from over transfusion**
- **1 Nephrosclerosis**

The next most frequent cause of obstetric deaths was abortion; there were six such deaths or 24%. All of these six deaths were due to induced abortion, contributing to septic death in five of the six, the sixth dying of pulmonary embolism.

There were no deaths attributed directly to infection other than five of the deaths from induced abortion which were septic in nature. Deaths due to infection, therefore, comprise 20% of the obstetrical deaths, a higher rate than the 14% of last year.

Toxemia accounted for four deaths or 16% of the total obstetrical deaths this year compared to only 4% last year.

The other eight obstetric deaths included six due to embolic phenomena or 24% of the total obstetric deaths were embolic. Four of these were classified as amniotic fluid embolism and two as pulmonary embolism. The other two miscellaneous deaths resulted from a case of nephrosclerosis and a case of pulmonary edema from over transfusion, both classified as *indirect* obstetrical deaths.

When one considers causation of maternal death, it is usual to refer to the triad of hemorrhage, toxemia and infection, with hemorrhage being the most frequent cause in all studies reported in this state since 1954. With changing trends in obstetrical practice and with better availability of blood for replacement, we seem to be experiencing a lower percentage of deaths due to hemorrhage. In this year's study, for instance, ranking very close behind deaths due to hemorrhage were deaths from embolic phenomena (24%) and deaths due to induced abortion (24%).

Of the 25 obstetric deaths, 18 were classified as avoidable and seven as nonavoidable.

Age and parity in this group of patients offered few significant trends.

TABLE 5

MATERNAL DEATHS IN MISSOURI 1966-1967

Age Groupings	
Under 20	8
20-30	12
Over 30	10
Over 40	3
Youngest patient	16
Oldest patient	46
Parity	
Primagravida	12
Multipara	20
Greater than gravida 5	5
Unknown	1

The racial incidence of maternal deaths in Missouri appears to be significant. This year's study includes 21 Caucasian women and 12 Negro women. In 1966, Negro births comprised about 15% of the total live births recorded. The incidence of maternal death among Negro women therefore is between two and three times higher than what one would anticipate.

Of the 33 maternal deaths, there were autopsies performed in 26 of the cases for an autopsy rate of 79%, a commendable rate, but still down below last year's rate of 84%.

An analysis of the geographical distribution of these deaths generally fits with the urban-rural balances of the state. Of the total 33 deaths, 21 occurred in either Metropolitan

St. Louis or Kansas City—14 in St. Louis, seven in Kansas City. The remaining 12 occurred out-of-state, two at the University of Missouri Medical Center at Columbia. Even removing these two from consideration as out-of-state deliveries, this leaves approximately one third of the deaths occurring outside the large metropolitan areas, roughly conforming to what is considered Missouri's 33% "rural" population.

SUMMARY

A review of 33 maternal deaths occurring in the state of Missouri in 1966-1967 is presented.

The calculated maternal death rate for the state is 4.5 per 10,000 live births, compared to the national average of approximately 3 per 10,000 live births.

Twenty-five of these deaths were obstetrical and eight were nonrelated.

Of the 25 obstetrical deaths, 28% were due to hemorrhage, 24% due to abortion, 24% due to pulmonary embolism and 16% due to toxemia.

Reviewing the causes of maternal deaths in Missouri leads to the conclusion that our state is not performing as well as the national average in this regard. It also is apparent that, in the past few years, we have appeared to reach a plateau in reducing our maternal death rate.

Since a higher percentage of deaths are due to induced abortion and embolic disease, perhaps our educational efforts should be shifted somewhat from our past emphasis on deaths due to hemorrhage.

More accurate reporting of our maternal death rate might be accomplished if our reporting year could be changed to conform with the calendar year as used to tabulate statistics by the Division of Health of Missouri. Also, new efforts should be instituted to cooperate with the osteopathic profession, so that analysis of *all* maternal deaths occurring in Missouri may be carried out and included as part of a statewide report.

The committee function of reviewing and analyzing maternal deaths must continue in an attempt to further decrease maternal mortality. The results of these analyses should be made known to all persons responsible for maternal care in Missouri with the hope that, through such educational efforts, we can fulfill our obligation to provide the highest standards of obstetrical care.

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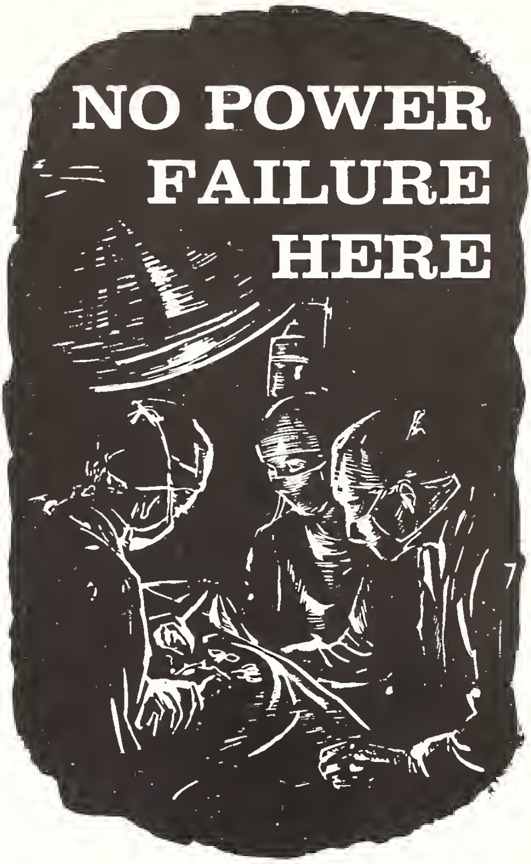

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Conference on Sports To Be Held in Miami Beach

The Tenth National Conference on the Medical Aspects of Sports, sponsored by the American Medical Association under the auspices of its Committee on the Medical Aspects of Sports, will be held in Miami Beach, Fla., at the Hotel Deauville on Dec. 1, 1968. The Conference is held annually in conjunction with and on the first day of the Clinical Convention of the AMA.

As was true of the previous nine Conferences, the Tenth will cover a wide range of subjects of interest to those serving school and college athletic programs. Included will be forums on the management of knee injuries, back problems and problems related to vision in sports. Other sessions will be devoted to a series of clinical concerns in sports warranting increased attention (e.g., cauliflower ear, pulled muscles, facial injuries and communicable disease). One discussion session will be devoted to the controversial issues affecting participation of young athletes, another to health and safety considerations in the conduct of aquatic activities.

The featured luncheon speaker will be Payton Jordan, Head Coach of the 1968 U.S. Olympic Track and Field Team, who will discuss "The Olympics in Retrospect."

The Conference is open to key nonmedical athletic personnel as well as interested physicians. Further information concerning the Conference may be obtained from the Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn St., Chicago, Ill. 60610.

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The American Academy of Clinical Toxicology

The American Academy of Clinical Toxicology has been founded for the advancement of clinical toxicology, a medical specialty concerned with the diagnosis and treatment of poisoning and drug intoxication.

The purposes of the Academy are to encourage clinical investigation, to promote the development of diagnostic and therapeutic methods, to foster among practicing physicians a better understanding of the treatment of poisoning and to improve the medical care received by the poisoned patient.

Five categories of membership are provided. *Fellowship:* Fellows are physicians in the full-time practice of clinical toxicology with five years' experience and who have been judged by the Examining Committee to have fulfilled the requirements set forth by the Constitution and By-laws. *Active Members*: Physicians who are called upon to provide clinical care for the poisoned patient as part of their practice. *Associate Members*: Physicians with no direct involvement in patient care and other scientists whose activities contribute to the advancement of clinical toxicology. *Honorary*: Honorary membership may be voted non-members in recognition of distinguished service or contributions to the objectives of the Academy. *Sustaining Members:* Sustaining membership is provided for organizations wishing to contribute additional financial support to the Academy as an aid in the achievement of its objectives.

The Academy will provide its members with a suitable periodical for the publication of original contributions to clinical toxicology. In addition to an annual business meeting and scientific program, the Academy will sponsor a symposium on some aspect of the practice of clinical toxicology with the procedings to be distributed to the membership. Ad Hoc committees will be appointed by the Academy to prepare special reports intended to assist the physician toward better utilization of available resources. Subjects under consideration are: Emergency room facilities, ER and I.C.U. nursing, Rapid analytical procedures, Documentation and reporting of toxic reactions, etc. *Clinical Guidelines* in the treatment of poisoning will be a series of brief discussions limited to individual toxic substances presenting pertinent data required for clinical management. The Academy will maintain a register of consulting clinical toxicologists by geographic area to whom physicians calling for assistance may be referred.

An active program of continuing education will be pursued by the Academy to provide the physician in practice with opportunity for specialized training in the management of poisoning. The Academy will sponsor annually a 2 to 3 day intensive training program on the treatment of poisoning. The Academy will participate with regional and local medical groups in the presentation of one day training programs by provision of teaching aids and assistance in the location of suitable faculty.

An organizational meeting of the American Academy of Clinical Toxicology was held on October 22 in Chicago. Applications for membership and further information may be obtained from *Eric G. Comstock,* M.D., Acting Secretary-Treasurer, American Academy of Clinical Toxicology, P.O. Box 2565, Houston, Tex. 77001.

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The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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WASHINGTON

The American Medical Association protested strongly against proposed new medicaid regulations affecting payments to physicians and utilization review.

The proposed regulation on physicians' reasonable charges was described as an anomally in a protest to the Department of Health, Education and Welfare.

In the protest filed with the Department of Health, Education and Welfare, the AMA termed the proposed regulation on physicians' "reasonable" charges as an anomally because it is based on payments received with no consideration given to the usual and customary fee.

Since medicare payments made by the government are 80% of the reasonable charge, this amount could become the maximum of every charge under medicare, the AMA said. Or, were physicians to receive less than full payment and write off losses, the reduced payments could become the basis for the reasonable charge under medicaid.

The new regulation on utilization review would require a state medicaid plan to provide for utilization review of each item of service, including a physician's in his office or the patient's home. The AMA said it could lead to a set of national standards with authorized treatment for each medical condition limited in a manner set by regulation.

The AMA said it is not opposed to a "claims review" process to that now in operation in many areas or as conducted under medicare. Nor, the AMA added, did it find fault with inquiring into a physician's conduct where fraud is alleged or where it appears on the basis of medicare claims submitted that there is reasonable ground for further investigation of a possible fraud.

In another development, the Advisory Commission in Inter-governmental Relations supported a medicaid goal of comprehensive health care for the needy and medically needy by 1975, but proposed changes in financing and operation of the federal-state program.

The report was directed particularly to "the virtually unmanageable fiscal burden imposed on state and local governments by the program." It urged that consideration be given to "broadening medicaid's financial base through increased involvement of the private sector through an employer-employee contributory health insurance system." If Congress approved this proposal, it would be a giant step toward national compulsory government health insurance.

The Commission rejected proposals to limit federal sharing in medicare and to establish national eligibility standards for beneficiaries.

The report was made public soon after the Senate voted a $500 million cutback in medicaid funds and when some states already were trimming their medicaid programs because of a financial pinch.

The Commission recommended that the states "move vigorously to experiment with methods of increasing the efficiency and economy of health services under the medicaid program," including (1) reimbursing hospitals contingent upon their operating under an acceptable standard of management efficiency, (2) expanding prior authorization for elective surgical procedures, (3) payment for physicians' services on a basis other than usual and customary charges, (4) use of copayments for the purchase of specified health care services and (5) improved techniques of utilization review.

The 26-member Commission is a bipartisan body established by federal law in 1959 to maintain continuing review of the relations among federal, state and local governments. Its membership consists of governors, mayors, county officials, state legislators and representatives of both houses of Congress, the federal executive branch and the general public. The chairman is Farris Bryant, former governor of Florida.

Congress approved a two-year extension of the regional medical programs and a one-year extension of the Hill-Burton program of federal aid for construction of hospitals and other health care facilities.

The legislation authorizes appropriation of $65 million in this fiscal year, ending next June 30, and $120 million for the next year for the regional medical programs. The Senate had voted a three-year extension but it was dropped in a House-Senate conference which worked out the compromise.

House conferees, however, emphasized that "this program, although a new, established one, has already proved its value and should be considered as a permanent program." They said they accepted the two-year extension to give the next Congress an opportunity to review the program.

The Hill-Burton program authorized $195 million for hospitals and $100 million for other health care facilities. The conferees abandoned Senate provisions for a new three-year program of federal loans of $200 million a year for hospital modernization and a guaranteed loan program of the same amount with a federal subsidy of interest. These provisions also were left for further consideration by the next Congress.

A total of $40 million was authorized for two years for construction and staffing of rehabilitation facilities for narcotics addicts and alcoholics. As a declaration of Congress, the measure states:

"Alcoholism is a major health and social problem afflicting a significant proportion of the public and much more needs to be done by public and private agencies to develop effective prevention and control."

The program of grants for family health service clinics for migratory agricultural workers was extended for two years with $9 million authorized for the current fiscal year and $15 million for the next year.

Congress approved legislation designating November 17-23 as "National Family Health Week." The legislation termed the week "as a means of focusing national attention during the year upon the accomplishments of the American health care system and the central role played by the family physician in the maintenance of superior medical care for Americans of all ages and from all walks of life."

The Committee on Emergency Medical Services of the National Research Council has recommended establishment of a nationwide program for the training of ambulance personnel.

The committee proposed guidelines for such training, stating that there is at present "no uniformity in the course of instruction and . . . no generally accepted standards of proficiency to be used by those empowered to certify ambulance personnel."

The committee's recommended guidelines cover either the standard or advanced first aid courses of the American National Red Cross as a prerequisite, the operation of emergency vehicles, safety precautions at the accident scene, priorities of care, records, the use of communication systems, the use of equipment and supplies, medicolegal problems and rescue procedures.

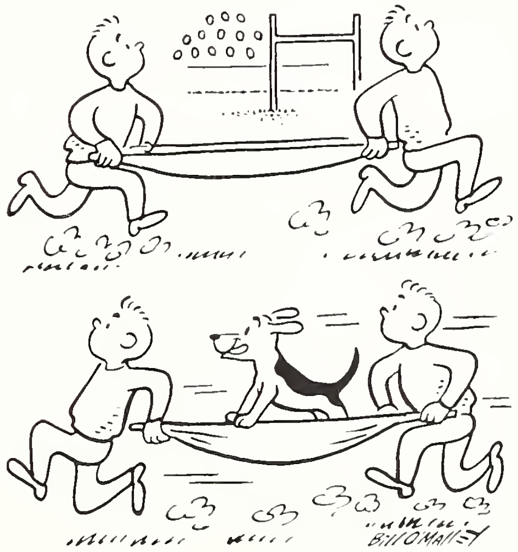
The levels of proficiency designed to result from the course proposed in the report are attainable in most areas of the country within a reasonable time, the Committee said. However, to realize the greatest life-saving potential, the ambulance attendant of the future should be trained to the same level as lay assistants in emergency departments or medical corpsmen in combat areas and, ideally, he should be qualifed to carry out, either independently or through voice communication with a physician, such procedures as tracheostomy, defibrillation and mechanical external cardiac compression, the Committee said.

To attain these goals, the Committee said, accredited hospital training programs must be established that will produce professional ambulance attendants and emergency department assistants of the caliber of certified X-ray, laboratory, physical therapy and other accredited medical technicians.

The ambulance attendant, it added, must be fully engaged in emergency care in an established career pattern that provides attractive compensation, prestige and recognition deserving of his services as a member of the emergency care team. Where the needs for ambulance services are low so that he is not fully occupied, such as in small communities, he should be an employee of a hospital, where he can maintain his interest and proficiency as an assistant in the emergency department, intensive-care unit or operating room, the Committee said.

The President's Committee on Mental Retardation reported that three fourths of the nation's

(Continued on page 933)



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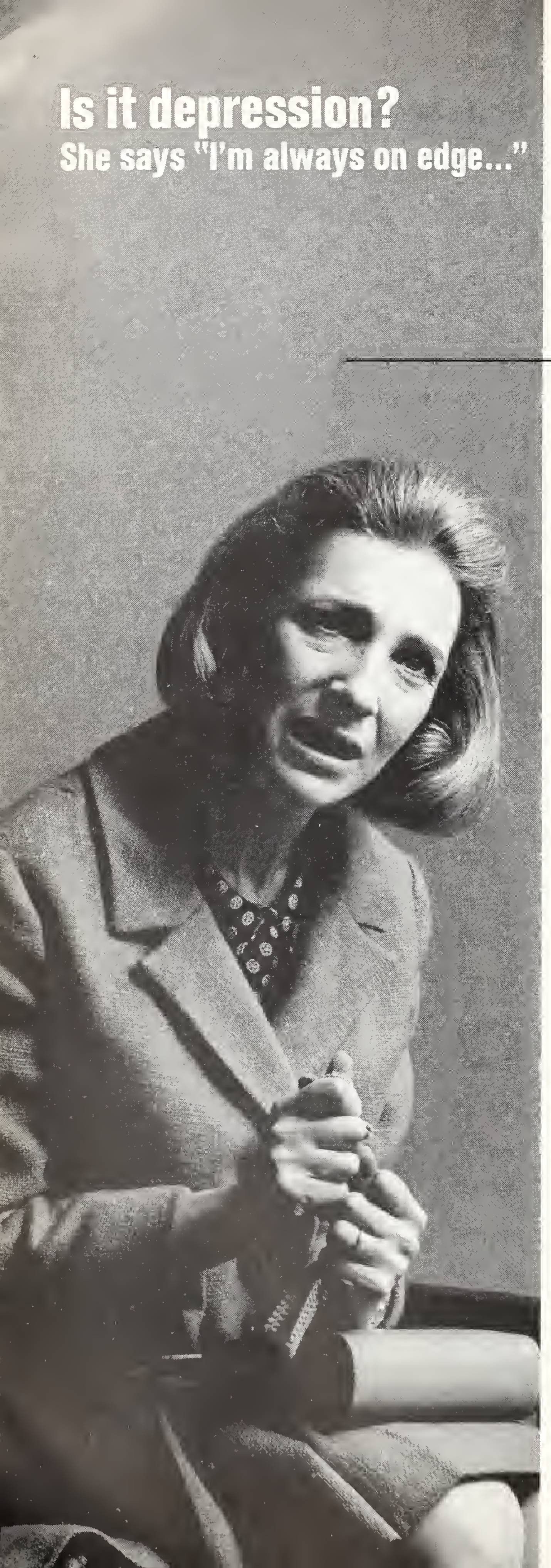

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driving a car or operating machinery or appliances requirin
alert attention. When depression is accompanied by anxiet
or agitation too severe to be controlled by ELAVIL HCl alon
a phenothiazine tranquilizer may be given concomitantl
Suicide is always a possibility in mental depression and ma
remain until significant remission occurs. Supervise patient
closely in case they may require hospitalization or concomitan
electroshock therapy. Untoward reactions have been reporte
after the combined use of antidepressant agents havin
varying modes of activity. Accordingly, consider possibilit
of potentiation in combined use of antidepressants. Mon
amine oxidase inhibitor drugs may potentiate other drugs an
such potentiation may even cause death; permit at least tw
weeks to elapse between administration of two agents;
such patients, initiate therapy with ELAVIL HCl cautiously wit
gradual increase in dosage required to obtain a satisfactor
response. Caution patients about errors of judgment due t
change in mood, and that the response to alcohol may b
potentiated. May provoke mania or hypomania in manic-d
pressive patients.

Side effects include drowsiness; dizziness; nausea; excitemen
hypotension; fine tremor; jitteriness; weakness; headach
heartburn; anorexia; increased perspiration; incoordinatio
allergic-type reactions manifested by skin rash, swelling
face and tongue, itching; numbness and tingling of limb
including peripheral neuropathy; activation of schizophren
which may require phenothiazine tranquilizer therapy; ep
leptiform seizures in chronic schizophrenics; temporary co
fusion, disturbed concentration or, rarely, transient visu
hallucinations on high doses; evidence of anticholinergic a
tivity, such as tachycardia, dryness of the mouth, blurring
vision, urinary retention, constipation; paralytic ileus; jau
dice; agranulocytosis.

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depressant activity may be evident within 3 or 4 days
may take as long as 30 days to develop adequately, and lac
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vary according to severity as well as type of depression pre
ent. Elderly patients and adolescents can often be manage
on lower dosage levels.

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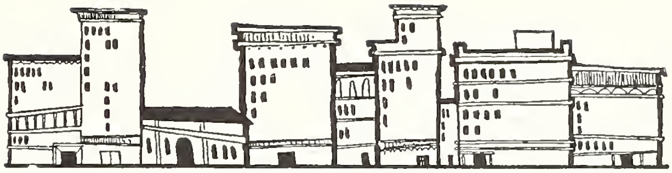
From the Medical Schools



WASHINGTON UNIVERSITY

Malcolm L. Peterson, M.D., Ph.D., has been named chief of the Washington University Service at City Hospital, Max C. Starkloff Division.

The appointment, which became effective on September 15, 1968, was announced jointly by M. Kenton King, M.D., dean of the School of Medicine, and Herbert R. Domke, M.D., D.P.H., St. Louis commissioner of hospitals and acting director of health and hospitals.

Dr. Peterson has been an assistant professor of medicine and director of the division of gastroenterology at the medical school since 1961 and on the Barnes Hospital staff since 1962. He also is senior fellow at the university's Center for the Study of Natural Systems.

He succeeds Gerald T. Perkoff, M.D., professor of medicine, who was appointed director of the newly-created Division of Health Care Research at the Medical School.

MISSOURI UNIVERSITY

Reminiscences and renewal of old acquaintances will be in order for M.D. Day to be held November 22 and 23 at the Medical Center, especially for the classes of 1943, 1958 and 1963.

The two days will begin at 9 AM Friday with welcomes from Missouri's Dean William D. Mayer and Dean George Wolf of the University of Kansas Medical School. Most of the day will be spent in scientific discussions of topics in genetics and other aspects of medicine.

The Holliday Inn-West will be the scene of the Friday evening dinner at $6 per person. Later there will be special entertainment.

Saturday will begin with a board of governors meeting of the Medical Alumni Association, a special breakfast to plan for next year's reunions, a medical potpourri and grand rounds. Luncheon will be served in the Medical Center cafeteria. To complete the day and revive that old school spirit, M.D. Day will end after the MU-KU game at the Memorial Stadium.

Chairmen for the class reunions this year are Dr. Hugh Stephenson, class of 1943; Dr. Carl Pearman, class of 1958; and Dr. Dax Taylor, class of 1963.

Dr. Mengel

Dr. Charles E. Mengel, now director of the Ohio State University Medical Center in Columbus, has been named professor of medicine at the University of Missouri-Columbia School of Medicine.

Dr. Mengel will take over full-time duties on Jan. 1, 1969, and will become chairman of the Department of Medicine. He expects to make several trips to Columbia this fall to assist in the development of education, patient care and research programs in the department.

ST. LOUIS UNIVERSITY

Dedication ceremonies, marking the completion of the new $3,000,000 Medical Research wing addition to the School of Medicine, were held on October 7. Dr. Charles B. Huggins, William B. Ogden distinguished professor of surgery at the University of Chicago and director of the Ben May Laboratory for Cancer Research, spoke on "Transformation of Normal Cells of Animals." Dr. Theodore Cooper, director, National Heart Institute, National Institutes of Health, who served as chairman of the Building Committee for the research wing, was also a guest speaker. He is an alumnus and former faculty member of the School of Medicine. Rev. Edward J. Drummond, S.J., vice-president, Medical Center, was master of ceremonies. Other St. Louis University speakers were Dr. Robert E. Olson, Dr. C. Rollins Hanlon, Dr. Robert H. Felix, dean, and Rev. Paul C. Reinert, S.J., president.

Dr. William C. Banton II, instructor in internal medicine at the School of Medicine and Tuberculosis Controller, City of St. Louis, has been appointed to the ATS Committee Medical Education for 1968-1969.

Dr. George W. Thorn, first visiting professor of medicine at St. Louis University School of Medicine *(center)*, admires appreciation award presented by Dr. Thomas F. Frawley, chairman, department of internal medicine *(left)*, and Dr. Elmer E. Sexton, associate clinical professor of clinical medicine *(right)*.

Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard University School of Medicine and Physician-in-Chief, Peter Bent Brigham Hospital, Boston, was the first visiting professor of internal medicine at the School of Medicine on September 24-27. The distinguished physician conducted Grand Rounds and Professor's Rounds at the St. Louis University Hospitals and delivered a visiting professor's address entitled "The Approach to the Patient with Hypertension" on September 26. About 100 members of the faculty, including many members of the internal medicine department, attended a dinner in his honor at the University Club at which he received a citation of appreciation from Dr. Thomas F. Frawley, chairman, department of internal medicine.

Dr. Richard K. Danis, senior instructor in surgery, presented a paper entitled "Mucosal Stripping With Abdomino Perineal Pull Thru" before the American Academy of Pediatrics Surgical Section which met in Chicago on October 20. The work was an anatomic and physiologic study.

Dr. Alfred J. Grindon has been appointed assistant professor of internal medicine and assistant professor of pathology at the School of Medicine. He also has been named associate physician at the St. Louis City Hospital and Director of the Blood Bank at Snodgras Laboratory which provides laboratory facilities for St. Louis City Hospital.

Joseph E. Lynch has been named director of Business and Finance for the St. Louis University Medical Center.

Mr. Lynch, who has been assistant to the dean for administration at the St. Louis University School of Medicine since 1966, will report to Rev. Edward J. Drummond, vice-president of the Medical Center. The three main areas of his responsibilities will be to formulate budgetary and financial policies and plans for all operating units of the Medical Center. These would include the School of Medicine, School of Dentistry, School of Nursing and St. Louis University Hospitals.

Dr. Grayson Carroll attended the International Urological Society meeting in Munich, Germany. He gave a paper entitled "Report of Clinical Studies of the More Recent Antimicrobial Agents in Treatment of Chronic Pyelonephritis." He reported on two new drugs, Nifuradine and Kasugamycin.

Dr. Edward T. Auer, professor and chairman of the department of psychiatry, attended the Central Neuropsychiatric Association meeting in Oklahoma City.

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Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

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See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

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Volume 65, Number 11—November, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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The Guillain-Barre Syndrome Associated With a Mesothelioma

Case Report

POLYNEUROPATHIES frequently have been reported with carcinomas of the lung[1-5] and breast,[2,4] and cases associated with carcinomas of the stomach, prostate,[6] ovary, uterus,[7] thyroid,[8] esophagus[9,10] and nasopharynx have occurred. Polyneuropathies, however, also follow other neoplastic disorders such as multiple myeloma,[10-12] the reticuloses[7,10] and the sarcomas.[13,14] A patient with a mesothelioma and an unusual terminal course that clinically resembled the Guillain-Barre syndrome will now be reported.

CASE REPORT

The patient was a 51-year-old man who noted a dull aching pain in his right upper anterior chest eight months prior to his admission to the University of Missouri Medical Center. This aching spread to involve the axilla, the posterior aspect of the right arm and the right scapula. Two months prior to admission, a right upper lobe infiltrate was discovered on chest x-ray. Bilateral scalene node biopsies and bronchoscopy were normal. On admission, the patient complained of neck and right shoulder pain aggravated by flexion and a ten pound weight loss. Although the patient was a heavy cigarette smoker, there was no cough, hemoptysis or pleuritic pain. A decreased right triceps reflex, weakness of the right triceps muscle and an inconstant right miosis were present.

Cervical spine roentgenograms demonstrated degenerative changes at C5-6 and C6-7. A cervical myelogram was normal except for mild degenerative changes of the cervical vertebra and a small right C8 dural root cyst. The spinal fluid protein was 36 mg/100 cc, with eleven lymphocytes per mm.^{3} An exploratory thoracotomy revealed a 5 cm infiltrating tumor of the right superior posteromedial chest wall involving the first and second ribs and interspaces, pleura, lung and the right sympathetic chain. The right brachial plexus was not explored. Biopsy of the tumor was reported as fibrosarcoma with dense connective tissue, marked fibroblastic proliferation, pleomorphic cells with several mitotic figures per high power field. The patient was discharged after three weeks hospitalization. Radiotherapy with Cobalt 60 was then started as an outpatient. Two weeks later, the patient was readmitted with progressive pelvic weakness, pain in the low back and hips, aching legs, neck stiffness and constipation. During the next five days, the patient became unable to sit up or walk and developed urinary incontinence. Flaccid paralysis, areflexia and mild muscle atrophy of the lower extremities without sensory loss developed. No radiographic evidence of bony lesions were present. A repeat myelogram revealed a filling defect at L4-L5 suggestive of a midline mass. The spinal fluid protein, which was 653 mg/100 cc on readmission, had increased to 872 mg/100 cc. There were nine lymphocytes per mm^3 of cerebrospinal fluid. A laminectomy and exploration of the L4 interspace was carried out. No block, metastatic lesion or

A case report of a superior sulcus mesothelioma, progressive ascending polyneuropathy and albuminocytologic dissociation. The authors discuss possible etiologies of the neuropathy in this patient and review pertinent literature. The authors are from the University of Missouri School of Medicine where Dr. Sights is Associate Professor of Surgery and Dr. Kam is Resident in Surgery in the Department of Neurological Surgery; Dr. Almond is Assistant Professor of Surgery in the Department of Thoracic Surgery; and Dr. Logue is Clinical Assistant Professor in the Department of Medicine.

herniated disc was found. The dura was opened and the subarachnoid space explored. There was no obstruction. No adhesions were seen around the nerve roots or dura. Radiation therapy was continued for 57 days to a total dose of 5,800r to the right superior sulcus. Girdle discomfort and lancinating pains in the lower extremities developed. Confusion and hallucinations ensued. The flaccid paralysis and muscle wasting progressed upward involving the lower ribs. Incoordination of the upper extremities with tremor and weakness, difficulty in swallowing, proptosis and miosis of the right eye appeared. There was no papilledema. The deep tendon reflexes remained absent, and no hypesthesia developed. Seven weeks after the thoracotomy, the patient became comatose with flaccid quadriplegia and expired of respiratory failure.

At autopsy, an infiltrating tumor was found involving the apex of the right lung and chest wall and extending medially to involve the vertebral column. Metastatic lesions were found in the omentum, liver and right adrenal gland. The left adrenal gland was hyperplastic. The brain was edematous, but no metastatic lesions were present. Microscopically, the tumor consisted of well-differentiated fibrous tissue with frequent mitotic figures and was classified as a malignant mesothelioma, fibrous type.

DISCUSSION

The Guillain-Barre syndrome, as revised by Guillain in 1936,[15] included frequent premonitory symptoms such as sore throat, malaise, or muscle stiffness, and then weakness and flaccid paralysis of the lower extremities ascending to involve the trunk and upper extremities. The distal musculature of the extremities was most affected with abolished tendon jerks, subjective sensory symptoms with minor objective sensory findings, occasional cranial nerve palsy, slowness of micturition and albuminocytologic dissociation. The case presented here satisfied these requirements, but was without the premonitory infectious illness. This case would not fulfill the strict criteria for the Guillain-Barre syndrome established by Osler and Sidell[16] as no previous infection was present, the ascending paralysis required more than two weeks to develop, the trunk muscles were involved, bladder difficulties were present and no improvement occurred. The confusion in classification has been discussed by Poser and Fowler[17] who prefer the term *post-infectious radiculoneuropathy* rather than Guillain-Barre syndrome. Accordingly, cases following neoplasms should be listed as polyneuropathies. Klingon stressed the clinical findings more than the albuminocytologic dissociation.[18]

This patient's symptoms and signs were similar to those seen in the patients with necrotizing myelopathy and visceral carcinomas described by Mancall and Rosales.[14] However, the lack of objective sensory loss, the absence of swelling of the thoracic cord on myelogram, the high spinal fluid protein, involvement of the upper extremities and muscle atrophy make this less likely, although these findings were also occasionally present in cases of necrotizing myelopathy. Case I of Mancall and Rosales had findings of a polyneuropathy clinically and at autopsy, yet, in addition, had marked necrosis of several areas in the spinal cord. Haymaker and Kernohan[19] have discussed the spinal cord findings that may be present in cases of Guillain-Barre syndrome. Diffuse demyelination and lymphocytic infiltrations usually were present in the spinal cord along with the peripheral neuropathy. This would suggest a spectrum of neurologic disorders that could be associated with neoplasms ranging from polyneuromyopathies, necrotizing myelopathy and spinocerebellar degeneration[4-20] to progressive multifocal leukoencephalopathy.[21] Brain and Henson[22] and Boruchow[1] have discussed the different neurological syndromes. The etiological factors have been considered by others.[1, 2, 14, 22] Klingon[18] postulated that a malignant tumor could be the source of antigenic factors necessary to create hyperimmune response in the nervous system and cause manifestations of the Guillain-Barre syndrome. This suggests that, in the present case, involvement of the brachial plexus by tumor produced antigenic factors. The breakdown products from nerve destruction may have caused a hyperimmune response.

The patient had Cobalt 60 radiation therapy to the right superior sulcus and part of the spinal cord. The maximum recommended dose established for the spinal cord is 3,500 to 4,500r given on 17 days.[23] During a four week period, 4,000 to 5,500r may be given.[24] The 5,800r given in this case were carried out slowly over 57 days, with weakness of the pelvic girdle present before radiation and other symptoms occurring shortly after radiation started. The clinical findings of radiation myelopathy usually are that of a partial or complete cord transection developing one to 15 months after completion of radiation therapy. The spinal fluid pressure is not elevated and the protein is normal. These patients frequently die of pneumonia or urinary infections.[25]

Myelograms were done before and after the onset of the polyneuropathy in this case. Reactions to Pantopaque with arachnoiditis have been reported[26-28] and may present a similar picture. The patient of Mason and Raaf[29] experienced headache, backache and pain in the lower extremities followed by weakness in his legs, areflexia and cranial nerve involvement and coma within four weeks. There was a prolonged terminal course. Meningeal signs were present clinically. At autopsy, a thick exudate was present over the surface of the brain and spinal cord. These findings were not present in this case. Generally, symptoms of myelographic arachnoiditis begin within 24 hours of myelography and an elevated cell count is present along with the elevated spinal fluid protein.

Several reports on the association of neoplasms and the Guillain-Barre syndrome were reviewed. Allison and Gordon[13] reported a 56-year-old woman who probably had Fisher's syndrome (ophthalmoplegia, ataxia and areflexia)[30] and a reticulum-cell sarcoma. Microscopic infiltrations and edema were noted along nerve roots, meninges, cord, brain and blood vessels at autopsy. A mechanical origin, rather than toxic, was proposed. A 65-year-old man with adenocarcinoma of his lung, tuberculosis and flaccid paralysis of his lower extremities was reported by Lopez, *et al.*[31] In this case, however, the paralysis did not ascend and later became spastic. Demyelination was seen in the nerve roots without tumor invasion at autopsy. One of the 26 patients with the Guillain-Barre syndrome reported by McFarland[32] had a carcinoma of the esophagus, causing death. Reports of the association of neoplasms and the Guillain-Barre syndrome are seen more frequently in the foreign literature. This is probably due to the confusing criteria for the establishment of the Guillain-Barre syndrome and our tendency to use the less specific term, polyneuropathy. Klingon discusses this problem further.[18]

This case represented a diffuse malignant mesothelioma. The spread of tumor to liver, omentum and adrenal gland was similar to the sites of metastasis reported by Caffey and Lucido.[33] In general, mesotheliomas spread locally invading pleura and pericardium.[34] Nevertheless, one case with involvement of the ribs and epidural space and compression of the spinal cord has been reported.[35-38] Arthralgias, clubbing of the fingers and fever, which are frequently associated with mesotheliomas,[39] were not present in this case. Sano, Weiss and Gault differentiated the diffuse fibrosarcomatous from the localized fibrosarcomatous type of mesothelioma. The former usually had epithelial-like cells, but a case of the diffuse malignant type without epithelial-like cells was reported which, on changing environmental factors in tissue cultures, developed the epithelial-like cells.[40] The peripheral location of this tumor, the age of the patient and the rapidly progressive course are conditions seen with mesotheliomas. Primary fibrosarcomas originating from the bronchus are rare, occur in younger individuals and have a better prognosis.[41, 42]

Conclusions

Polyneuromyopathies may be seen with neoplasms other than carcinomas. No other report on mesothelioma causing the Guillain-Barre syndrome or less specifically, an ascending polyneuropathy, was found in the literature. The reader is referred to the excellent articles by Klingon,[18] Boruchow,[23] Croft[2] and Mancall and Rosales[14] for possible etiologies. In closing, patients with slowly progressing ascending polyneuropathies should be examined for possible occult neoplasms.

Summary

A 51-year-old man with a superior sulcus mesothelioma, progressive ascending polyneuropathy and albuminocytologic dissociation is presented. Possible etiologics of the neuropathy in this patient are discussed and pertinent literature reviewed.

Acknowledgement: The pathologic material in this case was reported by Richard E. Johnson, M.D. The exploratory laminectomy was performed by John W. Payne, M.D.

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(Continued on page 902)

Special X-ray Exhibit

Unique Duodenal Loop Obstruction

M. WENDELL DIETZ, M.D.,* *Springfield*

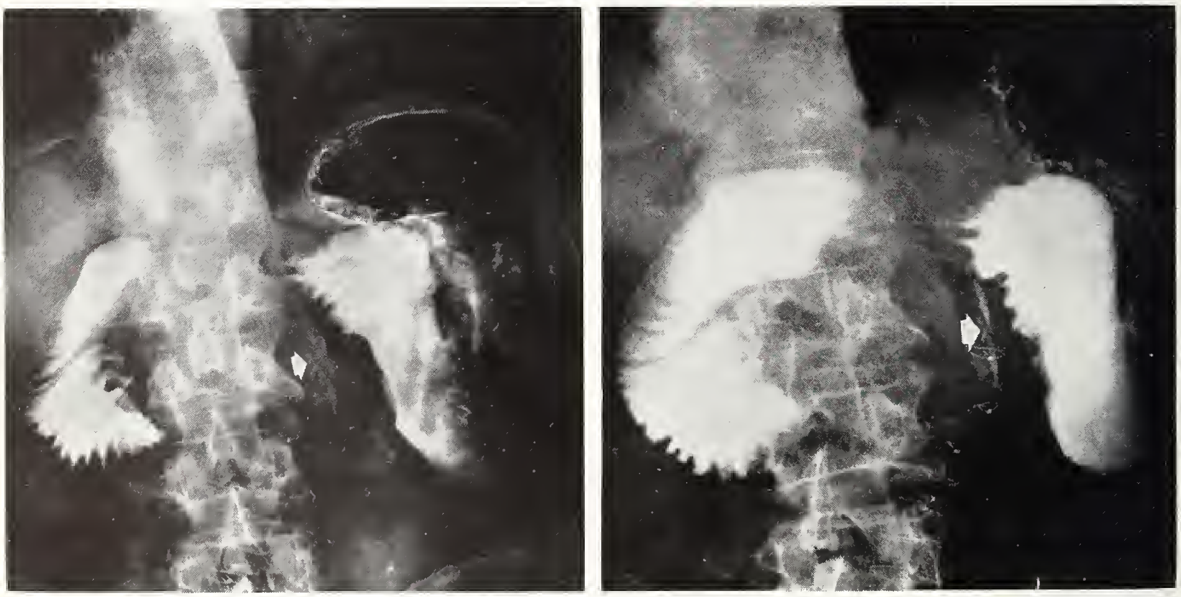
TABLE I

CAUSES OF POSTBULBAR DUODENAL OBSTRUCTION

Congenital
  Duodenal atresia or stenosis
  Annular pancreas
  Incomplete midgut rotation with peritoneal bands
Neoplastic
  Primary or metastatic duodenal tumors
  Invasion by pancreatic carcinoma
Intramural Hematoma (trauma, coumarin-induced)
Pancreatic Pseudocyst
Duodenal Ileus of—
  Superior mesenteric artery compression
  Inflammatory thickening of root of mesentery
  Acute pancreatitis
Postoperative Adhesive Bands
Dilatation and Atony of Scleroderma, Amyloidosis
Idiopathic Megaduodenum
Intraluminal Duodenal Diverticulum

Of the galaxy of forms of intestinal obstruction, postbulbar blockage of the duodenum is one of the most infrequently encountered. This exhibit illustrates two instances of high grade obstruction of the transverse duodenum by extremely rare casual agents. Although not an inclusive listing of causes of duodenal obstruction, Table I summarizes our radiologic experience. To this array of varying etiologic entities must be added the following vascular syndromes:

Case I. Transverse Duodenal Obstruction by Aortic Aneurysm



Figs. 1 & 2 Frontal and oblique, barium meal roentgenograms *(left and right)* reveal obstruction of the duodenal loop and concomitant signs of calcification in an adjacent aortic aneurysm.

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* Director, Department of Diagnostic Radiology, Burge-Protestant Hospital; Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

An ambulatory 63-year-old man was referred for gastrointestinal investigation because of a two-week history of daily postprandial vomiting, often of projectile type.

Four months earlier, an ileotransverse colostomy had been established after resection of an ileocecal lymphosarcoma. The patient had completed a prolonged abdominal radiotherapy course one month prior to the onset of vomiting.

Oral barium studies revealed elevation and compression of the distal stomach and duodenal bulb by a huge mass containing prominent calcifications *(arrow.)* The inferior duodenal flexure was dilated and the transverse segment abruptly obstructed (Figs. 1 & 2).

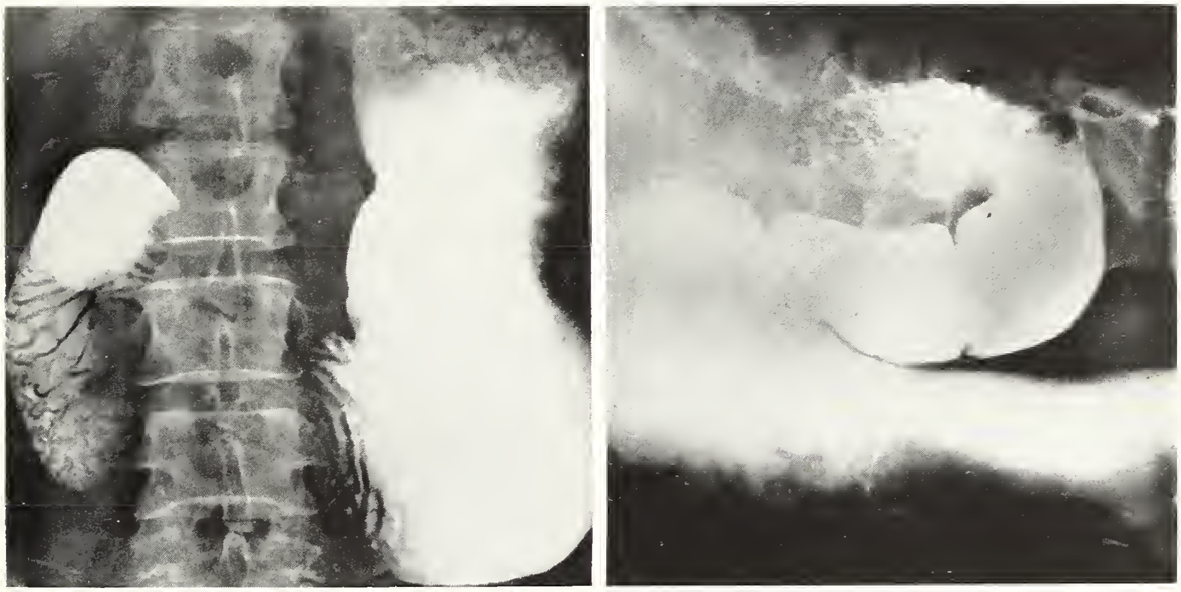
At operation, duodenal obstruction by an aortic aneurysm was confirmed and a posterior gastrojejunostomy was performed. The surgical course was uneventful; the patient was discharged on the tenth hospital day. Eleven days later, he was readmitted in shock following a massive hematemesis. The bleeding abated by the third day. Late that evening, however, the patient vomited approximately 1,700 cc of blood and expired three hours later.

Autopsy findings indicated that the sacculated aneurysm was situated distal to the renal arteries. Necrosis of the wall of the aneurysm at the site of duodenal compression had resulted in rupture into the duodenum. (No evidence of lymphosarcoma could be found at postmortem examination.)

Comment: A review of the world literature published in 1964 cited only eight cases of duodenal obstruction by abdominal aneurysm. Fifty-five percent of the patients in a series of 100 consecutive cases of abdominal aortic aneurysms reported gastrointestinal complaints, however. Abdominal pain was the most frequent; weight loss and constipation occurred repeatedly.

This additional instance of extrinsic intestinal obstruction by an aortic aneurysm is distressingly noteworthy because of the subsequent occurrence of the most common fatal complication of aneurysm—aorticoduodenal fistula. Of 100 recorded cases of rupture into the intestinal tract, 60 involved the transverse duodenum. Recent experience has demonstrated that an aorticointestinal rupture need not be catastrophic. Survival, permitting remedial surgery, exceeded 24 hours in 46% of cases.

Case II. Transverse Duodenal Obstruction by Posttraumatic Hematoma



Figs. 3 & 4 Frontal and oblique barium meal projections *(left and right)* reveal gastric and proximal duodenal dilatation with atony. Subsequent films indicated that the high grade obstruction was incomplete.

A 67-year-old woman was hospitalized for three days after falling across the seat of a chair. The epigastrium was severely contused and the left femoral neck was fractured. A hip nailing was performed on the following morning.

On the eighth post-injury day, a barium meal was scheduled because of the onset of persistent vomiting, nausea and anorexia. This examination revealed a partial obstruction of the transverse duodenum (Figs. 3 & 4). Roentgenologically, the obstruction was of indeterminate origin although the fluoroscopist believed that he had excluded an intrinsic lesion. The barium column did not progress beyond the midtransverse segment for several hours. Delayed films revealed that although the obstruction was severe, it was incomplete. The proximal duodenum remained opacified in recheck films made 72 hours after barium administration.

In view of a questionably palpable right flank mass, excretory and retrograde urograms were next performed. These demonstrated an ill-defined, noncalcific density in the vicinity of the lower pole of the right kidney. The intrarenal collecting system and the ureter were unremarkable, however.

Operation was performed with the provisional diagnosis of retroperitoneal tumor. The tumefaction was found at laparotomy to be a diffuse, well-organized retroperitoneal blood clot with wide extension between the leaves of the mesentery. Extrinsic compression of the transverse duodenum was responsible for the obstructive syndrome. The source of the hematoma remained obscure. There was no sign of continued bleeding nor evidence of leakage into the peritoneal cavity. Evacuation of the clotted blood and an anterior gastroenterostomy were curative.

Comment: Duodenal obstruction by retroperitoneal hematoma is, indeed, a medical rarity. Bleeding into the retroperitoneal space alone is an unusual diagnostic enigma, ordinarily attributable to trauma. Laceration of retroperitoneal tissues such as the duodenum, kidney, pancreas, bladder or aorta or vena cava are the usual sources of such hemorrhage.

In the absence of history of trauma, additional etiologic considerations include spontaneous apoplexy of the renal bed or adrenal gland, rupture of a hypernephroma or bleeding from some other retroperitoneal tumor or from an aortic aneurysm.

Guillain-Barre Syndrome (Cont'd)

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Acute Coronary Care: An Analysis of 196 Patients

SINCE THE INTRODUCTION of the coronary care unit concept of treating acute myocardial infarction, it has been shown that the hospital mortality of this disease can be significantly reduced.[1-4] What this means in terms of the total number of lives that can be salvaged annually in the United States alone is staggering, since estimates range from 45,000 to more than 100,000.[5-6] Such a goal is attainable only if the majority of large and small hospitals equip and staff an area especially designed for intensive coronary care. Limitation of funds and trained personnel seem insurmountable problems for the small, rural hospital. In reality, however, they probably are not. It has been estimated that a coronary care area can be equipped for about $2,000 per bed, and there are numerous references providing guidelines for designing and equipping such an area.[6, 7] Physicians and nurses trained in intensive coronary care are presently in short supply, but opportunities to obtain this training are becoming increasingly available.

The primary purpose of this paper is to analyze our first year's experience in a coronary care area. In addition, an attempt is made to determine by clinical and laboratory guides which patients with acute myocardial infarction require intensive coronary care.

THE STUDY

In January, 1966, a 12-bed intensive care unit was opened at St. Luke's Hospital in St. Louis. Between Jan. 1 and Dec. 31, 1966, 226 patients, who were subsequently given the final diagnosis of acute myocardial infarction, were admitted to the hospital. A retrospective analysis of each patient has been made. Thirty patients were omitted from the study for one of two reasons: (1) the myocardial infarction, although present, was considered to be incidental to another imminently fatal disease which, in most cases was a far-advanced malignancy or (2) the diagnosis of acute myocardial infarction, although suspected, was never established as judged by electrocardiographic, serum enzyme or autopsy criteria. The following data on each of the remaining 196 patients were recorded: (1) age and sex; (2) area in the hospital where treated; (3) pertinent past medical history, especially the presence or absence of preexisting cardiovascular disease; (4) electrocardiographic diagnoses and serum enzyme values; (5) cardiac arrhythmias recorded during hospitalization; (6) nonarrhythmic complications, both cardiac and extracardiac; (7) survival or death; (8) the cause of death; and (9) the occurrence of one or more cardiac arrests and the circumstances pertaining to each.

Of the 196 patients, 65 were admitted directly to the intensive care unit, 46 were transferred to the intensive care unit after initially being admitted to another area of the hospital and 85 spent their entire hospitalization in a hospital area outside the intensive care unit.

THE INTENSIVE CARE UNIT

The St. Luke's Hospital intensive care unit is a horseshoe-shaped, 12-bed, open ward area encircling a central nursing station. All of the bed areas have the appropriate electrical installations for monitoring, but monitors presently are installed at only eight of the beds. A central slave monitor is equipped with rate meters to alarm with both fast and slow rates and an oscilloscope to permit visualization of any two monitor traces at one time. A nonautomatic electrocardiographic "write-out" can be obtained at the central station and allows any one of the monitor traces to be recorded when desired. At each bed area, there is a wall suction apparatus, an oxygen outlet and an adjustable, hanging intravenous pole. Emergency equipment includes a DC defibrillator, Bennet Valve and drug cart, all of which are portable. The drug cart contains emergency cardiac drugs, intravenous fluids, sterile venous cutdown and tracheostomy sets and other miscellaneous emergency equipment.

The admission and transfer policies for the intensive care unit are the same as for the rest of the hospital. We have not found it necessary to establish a priority admission list as have some hospitals with coronary care units.[8] Rarely, because of lack of an available bed, have we been unable to accommodate an attending physician who desired that his patient be admitted or transferred to the intensive care unit.

ICU Coverage and Methods of Treatment

Five or six full-time registered nurses, trained primarily by members of the St. Luke's Hospital medical staff, share the nursing duties. Although the desirable coverage would be by two or, even, three RN's on each shift, this has been consistently possible only on the day shift. House staff coverage includes an intern and an assistant resident who are supervised by the Chief of Medicine and a Fellow in Cardiology. A "keep-open" IV with an intracath and slow 5% dextrose in water infusion is started on every patient who is admitted to the ICU with an actual or suspected acute myocardial infarction. Routinely, the IV is maintained for three to five days, or longer if complications develop. Since most medications used are given intravenously and because proper timing frequently is so critical, we feel that a readily accessible vein is of utmost importance. The length of time each patient is continuously monitored varies, depending upon the presence or absence of complications and the need for monitors by more acutely ill patients. In general, however, it is from seven to 14 days. As a result of recent work which suggests that most patients with acute myocardial infarction have some degree of pulmonary congestion presumably due to incipient or overt myocardial failure and because of the propensity of gastrointestinal reflexes to affect coronary circulation adversely, each patient now receives an acute coronary diet (1.5 gm of NaCl, 800 calories and 1,400 cc total volume) for the first 48 to 72 hours.[9-11] The diet then is advanced to a convalescent coronary diet (1.5 gm NaCl, 1200 calories and low fat content) for the next seven to ten days. Anticoagulation with an oral coumarin preparation has been used in 60% to 70% of the patients, at least during the period of strict bed rest. A patient is routinely observed one to three days off the monitor before being transferred to another ward to complete his convalescence.

Arrhythmias are managed very much as reported by other coronary care units. We tend to be aggressive in the treatment of arrhythmias that have been found to be premonitory for cardiac arrest (ventricular premature contractions, severe sinus bradycardia and heart block) and agree with Lown, *et al* that the most desirable treatment of cardiac arrest is prevention.[1] Procaine amide (Pronestyl), until recently, had been our drug of first choise for all acute and transient ventricular arrhythmias. We now initially use lidocaine almost exclusively for this purpose.[1, 12] We have been impressed with its effectiveness, rapid onset of action and low toxicity. Sinus bradycardia, when moderate to severe, is relieved with intravenous atropine or cautious infusion of a dilute solution of isoproterenol (Isuprel).[1, 13] Rapid digitalization with intravenous digoxin or Cedilanid is used in congestive heart failure, cardiogenic shock and supraventricular tachycardia. Quinidine, given orally, is added when supraventricular ectopic rhythms persist after digitalization. Intravenous ethacrynic acid has been a very effective adjunctive measure in the management of pulmonary edema.[14] Speed in the defibrillation of ventricular fibrillation and severe ventricular tachycardia is emphasized, with cardiac massage and artificial respiration often being unnecessary if the countershock is delivered within 30 to 60 seconds after the onset of the arrhythmia. The nurses do not defibrillate routinely, but have on occasion when a physician was not immediately available. It is the opinion of many of us that trained nurses should be allowed to routinely perform defibrillation, since the seconds saved can mean the difference between a successful and unsuccessful resuscitation. Asystolic arrest has been noted primarily as a terminal rhythm in severe congestive heart failure, in cardiogenic shock or following defibrillation. Intracardiac isoproterenol, calcium chloride and external cardiac pacing are used in an attempt to restore an effective heart beat in these cases if an initial blow to the precordium is unsuccessful. We have found that the effectiveness of external pacing can be considerably enhanced by positioning the pacing electrodes in the long axis of the heart as described by Zoll and Linenthal.[15] Supraventricular tachycardia associated with severe and progressive heart failure or hypotension is cardioverted or defibrillated with or without the benefit of a light anesthetic, depending upon the urgency of the situation. Second and third degree atrioventricular block have been managed both medically and with intravenous endocardial pacing. The method used in the individual case depends upon the ventricular rate and the severity of related hemodynamic changes.[16, 17] In general, most patients who develop a high degree of atrioventricular block are managed with an endocardial pacemaker.

The treatment of cardiogenic shock has been variable. Some of us have been impressed with the symptomatic and circulatory improvement following massive doses of glucocorticoids (40 mg to 200 mg of dexamethasone daily), but the cases treated in this manner have been too few to warrant further comment.[18] Isoproterenol infusion has been attended with temporary hemodynamic improvement in some cases. Vasopressors have been used alone or in combination with isoproterenol in the remaining cases. The effectiveness of any of these methods does not seem great, since all of the 19 patients who developed cardiogenic shock, as defined by the strictest criteria, failed to survive.[19] Others employing the same criteria have reported similar results.[20, 21]

PATIENT POPULATION

Of the 196 patients in this study, 80 (40.8%) were women and 116 were men. The average age of all patients was 64 years—66.7 years for the women and 62.2 years for the men. Thirty-five or 17.8% were diabetic, a somewhat higher incidence than has been found in other series.[22] Forty-four percent of the patients had a past history of angina pectoris, 27% of myocardial infarction, 21% of congestive heart failure and 26% of hypertension. Fifty-five (28%) patients gave no history of previous cardiovascular disease. The average duration of hospitalization was 26 days—23 days for those patients not treated in the ICU and 28 days for those who were. Fifty-six percent of all patients were given anticoagulants, the great majority receiving warfarin (Coumadin) alone. Postmortem examinations were performed on 30 of the 45 patients who died.

Electrocardiographic diagnoses were categorized as "active," non-diagnostic, anterior myocardial infarction, posterior myocardial infarction and anterior and posterior infarctions existing concurrently. Those electrocardiograms which showed serial ST segment and T-wave changes typical of acute myocardial infarction, but in which no diagnostic Q-wave developed, were termed "active." Of those patients with an "active" electrocardiogram, only those with transient elevation of the serum enzymes were included in this study. Most nondiagnostic electrocardiograms either showed left bundle branch block or were in patients who died before significant electrocardiographic changes could develop. Eighty-seven percent of the patients had a transient elevation of at least one of the serum enzymes routinely obtained at St. Luke's Hospital (lactic dehydrogenase, creatine phosphokinase and serum glutamic oxaloacetic transaminase). Enzyme studies were normal in seven patients who had classical electrocardiographic changes of acute myocardial infarction. In 17 patients, no enzyme studies were obtained because the patients died before this was possible in most cases.

In this analysis of the first year of experience in a coronary care area, an attempt is made to define clinical and laboratory parameters which would have value in the selection of patients most in need of intensive coronary care. It was disclosed that the presence of previous cardiovascular disease, old age and being a member of the female sex were all associated with an increased mortality. The author believes that a significant number of cardiac arrests can be prevented through early detection and prompt treatment of arrhythmias and other complications. Dr. Boelling was a Resident in Medicine at St. Luke's Hospital in St. Louis at the time this paper was written.

MORTALITY

Forty-five patients died; 22 were women and 23 were men (27.5% and 19.8%, respectively). The higher mortality among women with acute myocardial infarction is a consistent finding in other studies and is usually attributed to their advanced age.[22–24] The overall mortality was 23%, 18.9% for those patients outside the intensive care unit and 26.4% for those treated in the ICU (21.6% for direct admissions and 32.6% for patients transferred to the ICU). The higher mortality of patients treated in the ICU can be attributed to the greater severity of their illnesses, the existence upon admission or the subsequent development of a serious complication being the major reason for admitting or transferring patients to the intensive care unit. We have no previous studies on the mortality of myocardial infarction at St. Luke's Hospital. If our present death rate is compared with the generally accepted mortality of 35%, however, we can *postulate* that our mortality has been reduced by one-third since the institution of an intensive care unit.

As is true in all studies of acute myocardial infarction, mortality increased directly with advancing age. Forty-six percent of deaths occurred in patients more than 70 years of age. This same group accounted for only 29% of the total patient population, while patients less than 60 years of age accounted for 36% of all admissions but only 20% of the deaths.

The causes of death were grouped into four categories: (1) primary cardiac arrhythmia, (2) cardiogenic shock, (3) intractable congestive heart failure and (4) miscellaneous. The first group is composed of those patients who were neither in shock nor with intractable congestive heart failure when they died, usually suddenly and unexpectedly, of a proved or strongly suspected cardiac arrhythmia. Cardiogenic shock was diagnosed only when the constellation of signs and symptoms consisting of cold and clammy skin, cyanosis, severe oliguria or anuria, dulling of the sensorium and severe hypotension were present and persistent in the absence of serious arrhythmia, heart block, drug intoxication or an extracardiac cause of shock. The miscellaneous category includes patients who died of severe extracardiac disease (pulmonary embolism, cerebral arterial thrombosis or embolus, renal failure, etc.) or of unknown cause not considered to be a primary cardiac arrhythmia. They were included in the study because it was felt that the acute myocardial infarction contributed, although indirectly, to their deaths. Fig. 1 shows the cause of death in relation to the hospital area in which the patient was being treated at the time he expired. The greater incidence of death due to primary cardiac arrhythmia in nonmonitored patients reflects the real value of continuous monitoring in a coronary care area. Because of the monitoring and close observation that is possible only in such an area, cardiac arrest can be immediately detected and promptly reversed. It has been stated that death due to primary cardiac arrhythmia should be virtually eliminated in a well-run coronary care unit.[1]

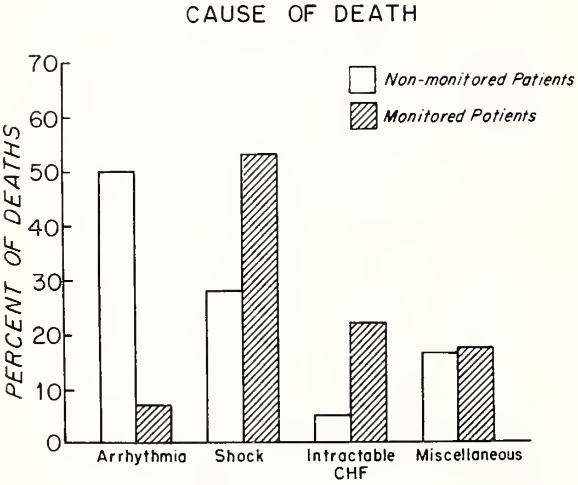

Fig. 1 Mycardial Infarctions: Percent admitted to ICU and total mortality rate.

An attempt has been made to identify certain clinical and laboratory guides which may be helpful in selecting those patients who have an increased risk of dying as a result of myocardial infarction. A previous history of angina, myocardial infarction or congestive heart failure was associated with an increased mortality. If one considers angina, a previous infarction, previous congestive heart failure and hypertension to be "adverse factors" lessening the chances for survival, the mortality increased directly with the number of "factors" present in the individual case. An electrocardiographic diagnosis of posterior myocardial infarction was associated with an improved prognosis as compared with an "active" reading or an anterior infarction. Not unexpectedly, the presence of acute anterior and acute posterior infarctions existing concurrently decreased significantly the chances of survival. Serum enzymes were not of prognostic value in this study, but probably would have been had they been obtained consistently at times when peak plasma levels are to be expected.

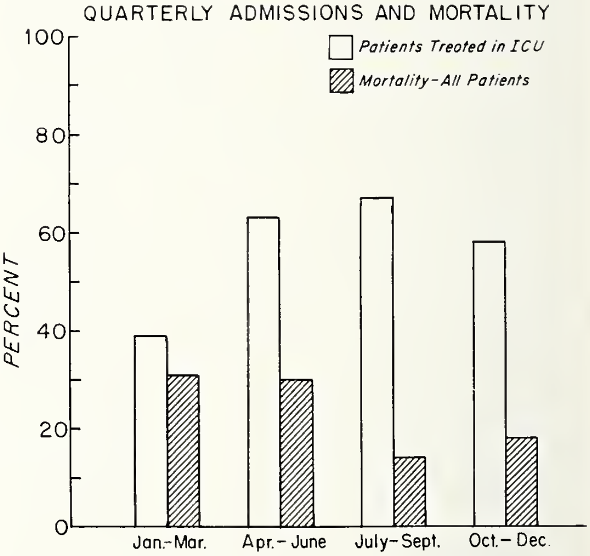

Fig 2 Cause of Deaths: Monitored and nonmonitored patients.

The quarterly admission rate to the ICU and the associated overall mortality rates are given in Fig. 2. The difference in mortality between the first and last six-month periods of the year is thought to be due to the increased admission

TABLE 1
INCIDENCE OF ARRHYTHMIAS

	St. Luke's Hospital			
	NON-MONITORED PATIENTS	MONITORED PATIENTS	*Julian*	*Lown*
Sinus Bradycardias	14%	12.5%	14%	27.7%
Sinus Tachycardias	24%	21%	43%	38.5% *
Atrial Premature Beats	19%	6%	25%	56.9%
Ventricular Premature Beats	29%	55%	67%	71%
Atrial (non-sinus) Tachycardias	1.2%	8.3%	4%	—
Atrial Fibrillation	7%	17%	16%	20.8%
Atrial Flutter	0	2.3%	2%	7.7%
Nodal Rhythm	1.2%	7.3%	8%	6.9%
Ventricular Tachycardia	0	12%	6%	28.5%
Ventricular Fibrillation	10.5%	5%	10%	0
Asystole	1.2%	2.7%	2%	0.8%
1 AV Block	10.5%	8%	13%	6.9%
2 AV Block	0	6%	10%	4.6%
Complete AV Block	0	4%	8%	4.6%
Total Arrhythmias	68%	91%	95%	88.0%

* Includes all atrial tachycardias.

rate to the ICU, a more aggressive approach to the management of premonitory signs of cardiac arrest and the knowledge and skills developed by the house staff and nurses as a result of accumulated experiences in intensive coronary care.

INCIDENCE OF ARRHYTHMIAS

The incidence of arrhythmias was determined by reviewing all electrocardiograms taken on nonmonitored patients and by all electrocardiograms, monitor tracings and notes by competent observers on monitored patients. Table 1 compares our findings with those from two other studies which are cited frequently.[1, 25] Except for the incidence of atrial premature contractions and sinus tachycardia, our results agree reasonably well with those of the other two series despite the fact that we do not have a memory loop to automatically record all arrhythmias that occur. It is likely that we merely failed to record atrial premature contractions and sinus tachycardia in many patients, since these particular arrhythmias are common and not often treated per se. Although 68% of nonmonitored patients were found to have at least one arrhythmia, potentially dangerous arrhythmias (severe sinus bradycardia, nonsinus atrial tachycardia, atrial fibrillation, nodal rhythm, ventricular premature contractions, ventricular tachycardia, asystole or a high degree of atrioventricular block) were noted in only 19%. On the other hand, 64% of monitored patients were found to have one or more serious arrhythmias. Of those patients who suffered a primary cardiac arrest (cardiac arrest not secondary to shock or severe congestive heart failure), only 36% of nonmonitored patients had documented premonitory arrhythmias as compared to 100% of monitored patients. From our own experience and the results of other coronary care units, it seems likely that most, if not all, of the nonmonitored patients had undetected serious arrhythmias prior to arresting.

CARDIAC ARRESTS

Twenty-four patients had at least one primary cardiac arrest: 14 (16.5%) were nonmonitored patients and ten (9%) were monitored patients. Ventricular fibrillation or tachycardia accounted for at least 64% of the arrests, of which two thirds occurred within the first 72 hours of admission. The relatively high number of arrests (36%) occurring after the first three days is not a finding peculiar to this study and lends support to our belief that routine monitoring of patients for as long as two weeks is justified. An attempt to identify predictive factors in patients suffering cardiac arrest disclosed that, in general, those patients with a past history of cardiovascular disease were somewhat more likely to have an arrest than those without this history. The differences were not great, however, and a significant number gave a negative history of previous cardiovascular disease. There were fewest arrests among those patients with posterior infarction, but this is somewhat misleading. The patient with acute posterior infarction is quite prone to develop marked sinus bradycardia with its attendant complications of hypotension, heart failure and ventricular escape rhythms.[26] It does not seem unreasonable to propose that some cardiac arrests in this group of patients were prevented by the prompt correction of the bradycardia with intravenous atropine or isoproterenal.

It is of interest to compare those patients who arrested while being monitored with those who were not being monitored at the time of arrest. The incidence of cardiac arrest was nearly twice as great among the latter group. Since nearly all patients who developed significant complications were admitted or transferred to the intensive care unit, those patients remaining in other hospital areas apparently were not thought to be in danger of sudden and unexpected death. On the other hand, many of the monitored patients were admitted or transferred to the ICU because they were considered to be candidates for cardiac arrest, yet only ten of 111 of these patients actually suffered an arrest. There is reason to believe that a significant number of patients, perhaps an additional ten or 15, were prevented from arresting by aggressive treatment of premonitory arrhythmias and hemodynamic complications.

Other differences worthy of mention between the two groups are the ages of the survivors and the total number of arrests in each group. The long-term survival (patient left the hospital with no residual neurologic damage) of the patients suffering cardiac arrest while being monitored was 60% as compared to 36% for the nonmonitored patients, despite the fact that the latter group was an average of seven years younger, which ordinarily is a distinct prognostic advantage. Nine of the ten monitored patients survived (return of consciousness and stabilization of the electrocardiogram for more than a few minutes) initial arrests while only five of the 14 nonmonitored patients were successfully resuscitated from an initial cardiac arrest. This emphasizes the importance of detecting and correcting cardiac arrest as quickly as possible, a feat which is consistently possible only in a coronary care area.

Summary

There can be little doubt that the mortality of acute myocardial infarction can be significantly reduced. The establishment of coronary care areas in virtually all private, county and city hospitals does not seem to be an impossible or even unreasonable goal. Although there are probably those who would question the necessity of this, they must represent a minority opinion. A more acceptable query is, "Do all patients with acute myocardial infarction need intensive coronary care?" An unequivocal answer to this question is not possible at this time, but the results of this and other studies indicate that it should be in the affirmative. The patients who had the greatest mortality in this study were those with a previous history of cardiovascular disease who were older and were female. Clinical and laboratory parameters, with the exception of certain cardiac arrhythmias, were less predictive. A considerably larger and more thorough study of 445 patients reviewed by Hughes, *et al*, disclosed that clinicians were able to correctly predict the outcome (mortality or survival) in only 68% of the cases.[27] An extensive computerized evaluation of the same study group was 91% accurate, but it detected only 35% of those patients who suffered a sudden and unexpected death. Even this high degree of overall accuracy of predictability is unacceptable when one considers the individuals in the "unpredictable" group. In general, they are young, and otherwise healthy patients who have either a mild or apparently uncomplicated infarction. Nevertheless, they die suddenly and unexpectedly as a result of a primary cardiac arrhythmia. To the contrary, "predictable" deaths tend to occur in patients with severe cardiac disease. Many of these patients, if they do survive, are unable to return to an active and productive life because of severe residual myocardial insufficiency. Of the six patients who survived arrest in our intensive care unit, two have since died, one is debilitated and in a nursing home and the remaining three are retired but doing reasonably well. Four of the five patients who survived primary cardiac arrest outside of the intensive care unit are living. Three of the four have returned to full-time employment. Thus, selection of patients for intensive coronary care could become somewhat of a philosophical question. At least one author has suggested that it is the good risk patient who deserves preferential consideration.[28] An inescapable conclusion seems to be that the only truly satisfactory answer is that *all* patients with acute myocardial infarction should be afforded the advantage of treatment in a coronary care area.

(Continued on page 913)

CHARLES C. HAYNIE, *Columbia*

Automation and Psychiatry

A Review

MEDICINE IN GENERAL, and psychiatry in particular, is only beginning to reap the harvest from the automation revolution. Clinicians' reactions to the computer naturally have varied, but usually have been less than optimistic. Automation is often seen as a threat to traditionally manual jobs (which it often is) and is dismissed with platitudes such as, "A computer is fine in business, but has no place in clinical medicine." This paper represents a more optimistic view and will examine, in a non-technical manner, a number of applications of automation in psychiatry which have been developed.

Broadly defined, automation is the instrumenting of information for decision or control purposes.[1] This definition says nothing about the revered computer, and many automated techniques exist which do not require such expensive equipment. Punched paper cards, coordinate referencing systems, microfilm storage and retrieval are only three examples. The complexity of the equipment is determined by the requirements of the job, i.e., what information needs to be gathered, sorted, analyzed and retrieved.

Psychologists are, perhaps, more at home with computers than psychiatrists because of the primarily statistical nature of their profession. The applications they have found for automation in psychophysiological psychology and statistical analysis of data are legion and too extensive to review here. Personality tests are a frequent meeting point of psychiatry and psychology, and recent advances in this field have important implications for both disciplines.

The Minnesota Multiphasic Personality Inventory (MMPI) has been a natural beginning in automated psychological testing. A number of entirely automated systems have been developed.[2–5] The patient fills out the familiar mark-sense test form or alternately sorts punched paper cards into true or false responses. These tests are then automatically read by appropriate data processing machines and entered into the computer for scoring and analysis. The traditional profile and scores are calculated. This result is used to determine which statements in a library will be printed out describing this particular patient. Thus far, the largest libraries consist of only approximately 75 statements. Even though the printout is based upon both individual scores and the configuration of the profile, the test's sophistication remains limited by the dearth of library responses.

These automated techniques have resulted in a diagnostic test which can be given at a cost of only $1.50 per unit.[2] The routine use of the automated MMPI has met with favorable reception from clinicians. One survey reveals the following reactions by 158 general medical and specialty physicians:[5]

	Yes PER CENT	*No* PER CENT	*No. Ans.* PER CENT
Reinforces clinical evaluation of emotional status	87	11	2
Reveals unsuspected emotional problems of kind or degree	65	31	4
Helps in borderline decisions	69	25	6

Patients appear to accept the MMPI's status as a routine test. The same authors who questioned the physicians found the following data concerning patient cooperation:

	Number	*Per Cent*
Tests completed	1,212	89.2
Refused to cooperate	3	0.2
Unable to cooperate	68	5.0
Tests not returned	76	5.6
Total	1,356	100.0

Thus, we find that the MMPI is accepted by medical patients, is inexpensively and routinely available through automated techniques and has, in fact, been judged valuable in a clinical setting by clinicians. Because these findings were made using relatively crude analytical schemes (as compared with the prototype profile analysis which is being developed at the University of

Missouri among other places), we can envision the bright future that automated psychological testing will have in tomorrow's medicine.

Once the automated system is developed, large numbers of patient files become readily available to answer many research questions. More precise relationships between the psyche and soma undoubtedly will emerge from this newly available information. Automated processes are crucial in prospective studies which must consist of tremendous data fields with relatively few morbid cases.[6] Psychometric evaluations on an epidemiological scale are able to define high risk groups for cardiovascular disease. Patients who develop angina are psychometrically distinct from patients who sustain myocardial infarcts without preceding anginal symptomology.[7] However, the precise relations between psychometric data and somatic disease remain unclear, and therapeutic intervention certainly awaits significant advances in epidemiologic psychometrics.

Computers can be of use in two aspects of medical and psychiatric diagnostics: the determination of rational diagnostic categories and the classification of unknown cases into predefined categories.

Modern multivariate analysis and pattern recognition may be one of the most significant contributions computer-related techniques can make to medicine. Syndromes traditionally have been formulated by using the insight developed during years of clinical experience. In both general medicine and psychiatry, the years have deleted and added syndromes as knowledge advanced. More complete understanding of underlying pathological anatomy, physiology and biochemistry often combine conditions previously thought to be distinct and reclassified them into a more rational system. After the basic division into "disorders caused by or associated with impairment of brain tissue function" and "disorders of psychogenic origin or without clearly defined physical cause of structural change in the brain"[8] is made, psychiatry's taxonomy is left dangling somewhat and without substantial justification for classification beyond descriptive similarity. Even without a final connection between brain pathology and psychopathology, a diagnostic system based on clustering of psychological dysfunction[9] or on the response to treatment modalities[10] may be more useful. For example, Overall analyzed the results of the BPRS (Brief Psychiatric Rating Scale) performed on schizophrenics by pattern recognition techniques and generated four diagnostic categories which he called paranoid, core, schizophrenic and depressed type.[11] These categories were found to have more specific drug sensitivities than the traditional categories, thereby indicating a more fundamental and, certainly, a more useful taxonomy.

Analog and digital computer analysis of EEG tracings may provide a more physiologically grounded diagnostics.[12] Traditional pen and ink tracings lose an undetermined amount of information because of their poor fidelity at high frequencies. The high fidelity of magnetic recorders, mathematical and statistical analysis of much more information than is possible by present eyeball methods and automatic rapid processing could change the EEG into a more useful laboratory test available at a much lower cost. One system using automated operational amplifier integrators linked to a digital computer computes and prints out the mean electrical energies, their variances, standard deviations, co-efficients of variation, mean square successive differences, cumulative frequencies, histograms, regression lines, analysis of variance and intercorrelations.[12] Clearly, no human technician is capable of such a detailed and accurate analysis of this EEG parameter. This same investigator was able to relate the EEG picture to diagnostic categories and follow and relate EEG results to clinical changes after psychopharmacologic therapy.

There are some research applications which computers alone can fit. One example outside of psychiatry is the numerical solutions of partial differential equations which cannot be solved by conventional analysis.[13] An analogous situation exists in psychiatry in the field of personality modeling.[14]

In model building, a mathematical, mechanical or analogal system is designed which behaves like the real system. Input from the actual system is translated into language the modeling system can understand. If the model is mathematical, these would be quantitative measures: if mechanical, they would be forces or movements; if electronic, perhaps they would be electrical potentials. The modeling system then allows conclusive deduction without any intervening assumptions. This circumvents the multiplicity of assumptions which enter particularly into psychological experimentation.[14]

The mathematical psychological models really are possible without computer systems. Automation and communications technology have been a crucial impetus in the development of the psychological theories which revolve around information theory,[15-17] but because these models are really formulae, they certainly can exist apart from the computer. The cybernetic revolution has produced another set of theories which are inextricably bound to the digital computer.[14] These theories of personality are actually computer programs.

Because these programs generate strings of decisions, evaluations and actions, i.e., humanoid behavior, validation of experimental results is difficult. The most complicated of these theories, which has been described as "not at all single-minded," is not completely in control of what it remembers and forgets, "is . . . prone to conflict and serendipity" and can be interrupted by "more interesting ideas." This program, named Argus, has operations so numerous and diffuse that its behavior cannot be analyzed step by step. Because of these characteristics, experimental validation has been virtually impossible and man-on-the-street comparisons, in which observers try to distinguish between productions of *homo sapiens* and the higher-priced human, thus far are the only solution.[14]

A communications network is an example of an automated data processing system which does not necessarily contain a computer. Communications networks transmit data from points of generation to the points at which the data will be utilized, thereby routing and, often, storing information for future retrieval in one operation.

At the Institute of Living in Hartford, Conn., such a system is being used.[18] Large institutions are faced with an information bottleneck which does not occur when the functional units of mental health care are small. The automated system (it, in fact, contains a computer) which has solved this problem at the Institute of Living gathers data generated throughout the institution and channels it to the location where it can be acted upon. Although the system is large, complex and seemingly impersonal, it results in a more complete maintenance of confidence as complete patient reports are generated for physicians only. Thus, a greater amount of control can be exercised over dissemination of confidential information to staff who really do not require such knowledge for effective functioning.

Because a computer is integrated into the system on an on-line basis, behavior can be predicted and appropriate warnings issued. For instance, if a patient misses his duties at the laundry, refuses to take medications from the nursing staff and tells his therapist he is tired of being in the hospital, the computer, being aware of all these data, might notify the patient's ward that he is probably going to leave the hospital and require that they ascertain where he is and report back to the communication system. The system will continue to demand a report on the patient's status until action is taken. This prediction is made by conventional linear programming techniques which weigh factors according to their statistical importance. Once the sum of these weighed factors reaches a certain significant level, the panic button is automatically pushed. Predictions can be of any type, such as suicidal risk, reactions to various treatment regimens or length of stay. Because the system is constantly gathering more data automatically, the accuracy of the predictions improves with time.

An optimistic view of the applications of automation in psychiatry and medicine, in general. The author states that the computer has arrived in medicine and believes that individual clinicians will benefit from the more convenient methods of eliciting, storing and retrieving clinical material in more useful forms. The combination of his interest in computers in medicine and Missouri's position in this field led Mr. Haynie to the University of Missouri School of Medicine where he is a senior medical student. This paper was required for the psychiatric clerkship and was written when he was a junior.

While data processing systems will be of some use in large psychiatric care units, their use in the overall mental health care facilities of a region or nation is more immediate.

Presently, epidemiologic studies of mental pathology are inevitably primitive for lack of really reliable and accurate information.[19] Health care facilities often are built more as political ploys than from rational, scientific bases. Are new facilities treating the same group of patients that the old state hospitals treated? Does the decreasing length of stay in mental hospitals reflect increased readmission rates or increased morbidity of mental disease or both? How is society's changing definition of mental disease reflected in the patients who present for treatment? How are the disease entities themselves changing? These questions remain substantially unanswered. In addition, evaluation and determination of treatment standards from institution to institution is entirely impossible.[20]

Thus, public health authorities need information to plan for efficient mental health facilities. Overlap, duplication of services and inefficient referral channels will remain as long as information is not available, and information will remain unavailable until standardized, automated techniques of data-gathering are developed which will be acceptable to all levels in the mental health care structure.

Of more immediate interest to individual psychiatrists are techniques for handling clinical material.[21-24] Automated systems of this type need not include expensive equipment.[22] One system devised by a German analyst consists of cards with 12 horizontal rows of 36 holes.[24] This allows 396 items to be coded by connecting vertically adjacent holes. Any Boolian algebraic combination of these items can be retrieved by inserting darning needle-like wires through the deck in the appropriate code location. This manner of indexing makes cross referencing unnecessary, is much more flexible than the more familiar peripherally punched cards and can be used in a wide variety of applications.

Another clinical application is computer analysis of speech patterns.[23] Progress along this line could lead to quantitative measures of information previously held to be only intuitively estimatable. Programs and equipment have been designed which not only analyze verbal behavior, but actually carry on a sort of therapy. These schemes await considerable development in both computer technology (hardware) and program design (software) before practical clinical use is possible.

Data storage systems can be divided into fixed field and free field systems.[25] The card system above is a fixed field system which accepts only binary codes—the holes are either connected or not connected. Fixed field systems require input which is predetermined as to type.[21] One such system accepts answers from a mental status examination of 617 questions answered as yes, no, maybe or numerically.[26] By introducing these data into a processing system, research into which items in a mental status examination have high interobserver validity can be determined. After becoming familiar with the system, the automated mental status examination took approximately the same amount of time for residents to administer and code as the traditional exam. Because a machine-readable document was generated at the time of data acquisition, research into clinical applications of the mental status exam is immediately possible with a minimum number of errors arising from lost or miscopied data.

Variable field input represents a more flexible and acceptable method of processing clinical data. A minimum number of categorizations such as heading codes are necessary. Beyond this, however, the clinician is free to enter material as he pleases.[25, 27] While complete textual reproduction is possible, this is uneconomical because of the amount of storage space required and because it cannot be statistically manipulated for research purposes. The KWIC (Key Word In Context) method is a solution to this problem.[27]

These schemes scan textual material extracting and indexing important terms. This method requires that lists of synonyms be generated including possible misspellings and misuses of terms for automated analysis. The ambiguity of medical terminology has been an important limiting factor in this approach. In addition to synonym combinations, a list of inclusions is made. While the practical problems are staggering, the promise of access to data storage and processing for clinicians without any knowledge of computer technology has stimulated a great deal of research and progress both in the automation industry and medicine.

One existing application of this type indexes Rorschach responses.[27] This program can print out either the complete textual response or a list in outline form which includes significant words alphabetized and counted for frequency.

SUMMARY

The computer has arrived in medicine, and our previously staid and isolated profession may find, as business recognized two decades ago, that we must automate or atrophy. Mental health planning in response to increased public demand for services necessitates an informational base. Psychological and psychiatric research are demanding the sophisticated underpinnings of computer technology to explore the detection of psychopathology, its diagnosis and its treatment. Individual clinicians will benefit from more convenient methods of eliciting, storing and retrieving clinical material in more useful forms. Whether the psychiatric patient will benefit from automation, however, must be its final measure of worth.

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Acute Coronary Care (Cont'd)

Since no one with coronary care unit experience is able to claim success in reducing the mortality of cardiogenic shock and intractable congestive heart failure, emphasis logically must be directed to the prevention of death from primary cardiac arrhythmias. It has been estimated that 40% to 60% of deaths in hospitalized patients with myocardial infarction will result from arrhythmias.[29] Theoretically, virtually all such deaths can be prevented through the proper use of a coronary care area.

Finally, the importance of preventing cardiac arrest by prompt treatment of arrhythmias and hemodynamic changes premonitory to cardiac arrest deserves repeated emphasis. Such early detection and treatment is possible only when the patient with acute myocardial infarction can be continuously monitored and observed during the acute phase of his illness.

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RUHERI PEREZ-TAMAYO, M.D. ***and***
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Methotrexate and Radiotherapy in the Treatment of Advanced Squamous Cell Carcinomas of the Oral Cavity and Pharynx

INTRODUCTION

In recent years, the works of Dr. Paul Condit and others have opened new hopes for the improvement of cure rates when patients with advanced squamous cell carcinomas of the head and neck are treated with a combination of Methotrexate and radiotherapy. In preparation for a cooperative, randomized, clinical trial, Ellis Fischel State Cancer Hospital undertook, in a pilot study, the treatment of patients with advanced lesions of the head and neck using a combination of Methotrexate and radiation therapy. The objective of the study was to observe the toxicity of the drug and the effectiveness of the combination when oral Methotrexate is followed immediately by the same course of radiotherapy that is given to paticnts not receiving chemotherapy.

Presently, the National Cancer Institute is sponsoring the randomized cooperative clinical study of the combination of intravenous Methotrexate followed by radiation therapy in the treatment of advanced carcinomas of the oral cavity, oropharynx and hypopharynx. The intravenous injection of 25 mg of Methotrexate every third day for a total of five injections, followed immediately by a regular course of radiotherapy, is considered less toxic and possibly as effective as other drug schedules by various routes of administration.

Ruheri Perez-Tamayo, M.D.

THE PRESENT CURE RATE of less than 15% and the infrequent local control of advanced squamous cell carcinomas of the oral cavity and pharynx continue to stimulate research and the conduct of clinical trials using various combinations of surgery, radiotherapy and chemotherapy. Radiotherapy and chemotherapy are pursuing numerous avenues together. Among these, the value of the combination of aminopterin and amethopterin (Methotrexate, MTX) and radiation therapy is being investigated by various groups participating under the sponsorship of the National Institute of Health. Some publications have indicated that the combination of MTX and radiotherapy has produced definite improvement in the survival and local control rate of advanced squamous cell carcinomas of the oral cavity and pharynx.[1-4] Other reports state that MTX produces temporary regression in as many as 25% to 50% of the cases.[5, 6] The literature, unfortunately, is filled with contradictory opinions, and the value of MTX is awaiting final confirmation by way of a controlled clinical study. The need for confirmation is urgent. The toxicity of the drug, however, must be investigated simultaneously since a number of deaths produced by MTX have been reported.[1, 3] This study is an attempt to find the least toxic but still effective dosage of MTX in humans.

The morbidity attendant upon the use of MTX and, perhaps, its effectiveness must be related in part to the time-dose schedules employed, the route of administration, the size of the dose and the physical condition of the individual receiving the medication.

An analysis of the literature does not permit the selection of the "optimum" schedule of MTX to treat patients with advanced squamous cell carcinomas of the oral cavity and pharynx. Only an educated guess can be made with the experimental results obtained in animals, and all clinical schedules today are grossly empirical, even though they are sometimes based upon animal research.[6]

This study is concerned with the evaluation of the toxicity produced by a course of MTX which was followed immediately by a complete and conventional course of telecobalt beam therapy. The dose schedule consisted in the administration of 2.5 mg of MTX *per os* three times a day for a total of 105 mg in 14 consecutive days. (A second publication will be made with the evaluation of the toxicity produced by intravenous MTX.) MTX was permanently discontinued if toxic signs or symptoms appeared at any time or if a trend to a rapid leukopenia and/or thrombocytopenia became apparent before the 14th day of the course. Some toxic reactions were classified as mild, moderate or severe in order to investigate the dose-response relationship and toxicity of MTX by mouth. The classification of blood changes took into account the hospital average values of white blood cell counts and platelets. These average values are 7,000 and 300,000 respectively. No patient was accepted in the study if the baseline blood count indicated white cell values below 5,000 or a platelet count under 300,000.* During the course of MTX, blood counts were followed by a second test the same day to minimize the possibility of laboratory errors. Blood counts were done weekly when normal values persisted after MTX was discontinued or terminated; blood counts were done daily until the test became normal.

Other signs or symptoms, such as mucositis, skin rash, gastrointestinal cramps and sore throat, were initially classified as mild, moderate or severe. Since it became possible to discontinue the drug at the earliest indication of reaction, however, the degree was always mild. (Table 1 reports a list of toxic reactions and their classification.) *Oral administration* was favored in this initial group of patients over other routes because of its convenience and because oral MTX is known to be absorbed well and is as effective as when given by the parenteral route at the dose of 0.1 mg/kg.[7] MTX in humans is distributed to total body water within one hour following an intravenous or small oral dose. From 54% to 88% of the dose is excreted in the urine in 24 hours. The oral dose of 2.5 mg t.i.d. was selected on the basis of personal clinical experience. Kramer and Friedman have used a similar dose schedule, but they overlapped the courses of MTX and radiotherapy.[2, 3] This overlap could have obscured and complicated the interpretation of the morbidity and/or the interpretation of the effectiveness of MTX. No overlap was allowed in the 40 cases of this presentation. Another important consideration regarding the size of the dose is whether MTX is to be given continuously, e.g., infusion, in daily doses or in other schedules at various intervals. Condit has discussed several schedules.[5, 8] He selected single intravenous injections of MTX at intervals of two weeks with a simultaneous course of radiotherapy. His schedule was based upon the response to MTX of mice with disseminated, transplanted leukemia (more effective response to treatment once daily than with treatment two or four times a day)[2] and mice with early leukemia (when response is said to be better to one treatment every four days, than when given two or four times daily).

One of the advantages of giving MTX by mouth to the patients of this study was the ease of controlling toxicity by holding the first dose of the day until a physical examination and daily blood counts confirmed the absence of untoward signs or symptoms. The classification of severe reaction in this presentation (less than 2,000 WBC and less than 100,000 platelets) corresponds to moderate toxicity in the classification of Condit (less than 2,000 WBC and platelets below 50,000).[8] No patient of this series became "severely" intoxicated according to the classification of Condit, which is less than 1,000 WBC and platelets below 25,000 (Table 1). Again, MTX by mouth is toxic but can be controlled very well. Two-thirds of the patients in this series developed a toxic reaction between the fourth and 12th days of the course (30 to 90 mg of MTX); but one third of the group completed 14 days of MTX (Table 2). Only five patients did not develop toxic signs or symptoms. Eight of the 13 who completed the course of MTX developed such signs either during or after the termination of the course (Table 3). The white blood count and platelet count decrease was the only sign of toxicity in 35% of the patients, but combinations of leukopenia, thrombocytopenia and other signs occurred in 57%; the sign of mucositis or skin rash occurred

This is the third article in a series from the proceedings of the Professional Program of Ellis Fischel State Cancer Hospital and Cancer Research Center which was held in May, 1967. The program brought together outstanding speakers to discuss the management of advance squamous cell carcinomas of the oral cavity, the oropharynx and the hypopharynx.

Drs. Perez-Tamayo and Soberon are from Ellis Fischel State Cancer Hospital and the University of Missouri Medical Center.

Introductory remarks are by Dr. Perez-Tamayo, Chief of Radiotherapy at EFSCH, who served as a section coordinator and moderator for the program.

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* Some would consider this figure too high for lower limits of normal.—Ed.

TABLE 1

TOXIC REACTIONS AND CLASSIFICATION

1. Leukopenia	
Severe	2,000 WBC
Moderate	4,000 WBC
2. Thrombocytopenia	
Severe	100,000
Moderate	200,000
3. Mucositis (epithelitis): Mild*	
4. Skin rash: Mild*	
5. Gastrointestinal cramps: Mild*	
6. Sore throat: Mild*	

* These reactions could also be moderate and severe, but MTX was discontinued at the earliest indication of reaction and therefore the degree was always mild.

TABLE 2

Days	*Dose*	*No. Cases*	
4	30	3	
5	37.5	2	
6	45	5	
7	52.5	2	
8	60	3	
9	67.5	1	
10	75	6	
11	82.5	3	
12	90	*2*	*27/40:67%*
14	105 mg	*13*	*13/40:33%*
Total		40	

TABLE 3

Toxicity at completion	3	
Toxicity after completion	5	
No toxicity	5	5/40:13%
Total—Full course completed	13	13/40:33%
Total patients treated	40	

TABLE 4

Single toxic sign or symptoms	17/40:42%
Several toxic signs or symptoms	18/40:45%
No toxic signs	5/40:13%
White blood cells and platelets alone*	14/40:35%
Blood plus other signs†	23/40:57%
Signs alone other than blood‡	12/40:30%
Mucositis alone or combined	7/40:17%
Rash alone or combined	6/40:15%

* Depression of white blood cells and platelets only.

† Several combinations of depressed WBC and/or platelets with the presence of one or more toxic reactions.

‡ Various single toxic reactions excluding blood' signs. (Some combinations of toxic reactions overlap in several of the categories of this table.)

TABLE 5

Severe Toxicity	18	18/40:45%
Moderate	7	
Mild	10	
None	5	
Total	40	

TABLE 6

BLOOD RECOVERY

No. Days	*No. Cases*
5-10	14
10-20	10
> 20 (28)	1
Total	25*

* Only the resolution of severe and moderate reaction are considered.

alone in six instances each; and signs or symptoms other than hematologic changes made the diagnosis of toxicity in 30% of the treated cases. In short, 13% of all cases did not become toxic, more than 50% of the cases showed blood changes and the remaining part of the group (more than 30%) had other signs that include mucositis, cramps and skin rash (Table 4).

The high incidence of toxic reactions is "severe" in only 45% of all the patients (Table 5). The white blood cells and platelets decrease to below 2,000 and 100,000, respectively. However, this is neither a sudden nor a permanent change. The course of MTX is discontinued when the first persistent blood count depression is noticed or mucositis, cramps or skin rash appears. Although MTX is discontinued at the level of 4,000 or 3,000 WBC, the count continues to descend for a few days. Spontaneous recovery to normal values occurs in more than half of the cases in five to ten days (Table 6). All of the patients with low counts were back to normal in three weeks. Not a single transfusion was required in the group.

The toxicity of MTX and the effectiveness of the combined course of chemotherapy and radiotherapy are closely associated to the clinical stage and general condition of the patients treated.[9] Most patients with advanced carcinomas of the oral cavity and pharynx are in delicate general condition and have a high mortality rate independent of the treatment given. The clinical stage or TNM classification (Table 7) of the 40 patients studied illustrates the advanced stage of the lesions in the group and

TABLE 7

TNM Classification*		
Stage I:	$T_1N_0M_0 \leqslant 2$ cm	
Stage II:	$T_2N_0M_0 \leqslant 4$ cm	
Stage III:	$T_3N_0M_0 > 4$ cm	
	$T_1N_1M_0$	
	$T_2N_1M_0$	
	$T_3N_1M_0$	
Stage IV:	$T_1N_2M_0$	$T_1N_3M_0$
	$T_2N_2M_0$	$T_2N_3M_0$
	$T_3N_2M_0$	$T_3N_3M_0$
	Any T or N with M_1	

* American Joint Committee—1967 Staging for oral cavity lesions.

TABLE 8

	N_0	N_1	N_2	N_3	*Totals*
T_0*				2/ 2 (2)	2/ 2 (8)†
T_1					
T_3		1	1	1	0/ 3 (0)
T_3	1/4 (1)	4/ 9 (2)	1/5 (0)	6/17 (3)	12/35 (6)
Totals	1/4 (1)	4/11 (2)	1/6 (0)	8/20 (5)	14/40 (8)

* T_0 stands for primary unknown or controlled.
† The first of the three numbers is patients dead; the second figure represents the number of cases; and the number between parentheses is the M_1 of the group (distant metastasis).

TABLE 9

METHOTREXATE RESPONSE

	No. Cases	
Good	17	
Moderate	4	*21/40:52%*
Slight	8	*29/40:72%*
None	6	
Unknown	5	*11/40:28%*
Total	40	

TABLE 10

METHOTREXATE PLUS RADIOTHERAPY RESPONSE

	No. Cases
Good	25
Moderate	3
Slight	3
None	1
Unknown	8
Total	40

TABLE 11

WEIGHT LOSS

Lbs.	*No. Cases*	
> 30	1 (1)*	
20 to < 30	4 (1)	
10 to < 20	6 (4)	
5 to < 10	5 (2)	
No weight loss	24 (5)	24/40:60%
Total	40 (13)	13/40:32%

* Numbers between parentheses are cases dead.

explains the high mortality (Table 8). Although the follow-up time of the patients in Table 8 is less than one year, 14 patients are dead already; eight of these, however, were known to have generalized metastases before treatment. They were not considered curable but received the combined course of MTX and radiotherapy in hopes of palliation (Table 9). All patients in this group are included in the test of the toxicity of oral MTX. Tumor regression was graded as "good" when more than 50% of the lesion disappeared; "moderate" when only 50% of the lesion regressed; and "slight" when less than 50% regressed. Eleven cases were very difficult to classify (trismus, etc.), but more than half (21/40:52%) had a "good" to "moderate" response to MTX alone and 72% showed evidence of some regression. The early results of the combination treatment of radiotherapy and MTX were "good" to "moderate" in 28 of 40 cases (70%) (Table 10). It is too early to attempt to explain or speculate upon the possible value of the combination in the cure rate of advanced carcinoma of the oral cavity and pharynx. It can be said, however, that the toxicity of MTX in the schedule described here is tolerable and manageable. More than half of the advanced lesions regressed considerably on oral MTX.

The weight of the patients changed as illustrated in Table 11. Only one patient lost more than 30 pounds after the combined treatment, and he is dead. Five patients lost five to ten pounds, which is not uncommon after irradiation of the oral cavity. Six patients lost ten to 20 pounds, and four patients lost 20 to 30 pounds (only one of these four is dead). Considering that at least eight were known to have distant metastases, it is difficult to interpret the fall of body weight in these circumstances. It has been said that exceptional patients receiving MTX continue to lose body weight until death. This possibility cannot be excluded nor can it be

(Continued on page 922)

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Serum Lipids in 584 Spanish- and Anglo-American Women

A RECENT REPORT relates serum fatty acid and triglyceride concentrations in 1,094 Spanish-American and Anglo-American men to the ethnic incidence of cardiovascular deaths in New Mexico.[1] In a parallel study based upon 231 Spanish- and 353 Anglo-American women, fatty acids, triglycerides, cholesterol and phospholipids were measured in serum obtained following an overnight fast and three hours after a high-fat test meal. One hundred and thirty-nine of the Spanish and 121 of the Anglo women were chronic mental patients at the New Mexico State Hospital (Table 1).

TABLE I

ETHNIC ORIGIN AND SOCIOLOGIC ENVIRONMENT OF TEST POPULATIONS

Ethnic Group	*Non-institutionalized*	*Hospitalized*	*Total Number*
Spanish-American . .	92	139	231
Anglo-American . . .	232	121	353
	324	260	584

Serum fatty acids, triglycerides and phospholipid phosphorus were measured by Albrink's methods.[2] Cholesterol concentrations were determined by Technicon analysis.[3] Data were fractionated by ethnic origin, sociologic environment and age by decade from 20 years through 79 years. The diet of hospitalized patients averaged approximately 2,000 calories daily. The test breakfast consisted of two scrambled eggs with 29 gm of butter and 60 ml of thick whipping cream.

RESULTS

In this paper, probabilities of a larger value are specified by the following superscripts: $^{+}$0.100, *0.050, **0.010 and †0.001 (by *t* test). As in men,[1] a peak or a significant ethnic difference in serum fatty acids and triglycerides in women is reflected in the incidence of cardiovascular deaths ten to 20 years later (Table 2). By age, sex and ethnic origin, cardiovascular deaths in Spanish- and Anglo-Americans relate to concentrations of serum fatty acids and triglycerides rather than to cholesterol and phospholipids, which alter less and frequently change in a different direction than the first two.

1. *Means for overnight fasting concentrations of serum lipid components in noninstitutionalized women.* Maximum concentrations for fasting serum fatty acids, triglycerides and cholesterol are achieved in noninstitutionalized Anglo-American women during the 70's and in Spanish women during the 50's. The incidence of cardiovascular deaths, by decade, is higher in Spanish than in Anglo women to age 70 (Table 2).[4] Fatty acid, triglyceride and cholesterol concentrations are greater in noninstitutionalized Spanish than in Anglo women to age 60. However, fatty acids (Fig. 1) and triglycerides (Fig. 2) are significantly higher in Spanish women only during the decade from 50 through 59 years (fatty acids,* triglycerides†). Triglycerides in Spanish women increase significantly during the 50's.* In women of both ethnic groups, serum fatty acids, cholesterol (Fig. 3) and phospholipids (Fig. 4) increase significantly during the 50's compared to the 40's.

2. *Overnight fasting concentrations of serum lipid components in hospitalized women.* The more uniform institutional environment tends to cancel out ethnic differences related to dietary habits, mode of life, physical activity, socioeconomic status and stress. In hospitalized populations, serum lipid components, except in Anglo women, remain on a plateau, not showing

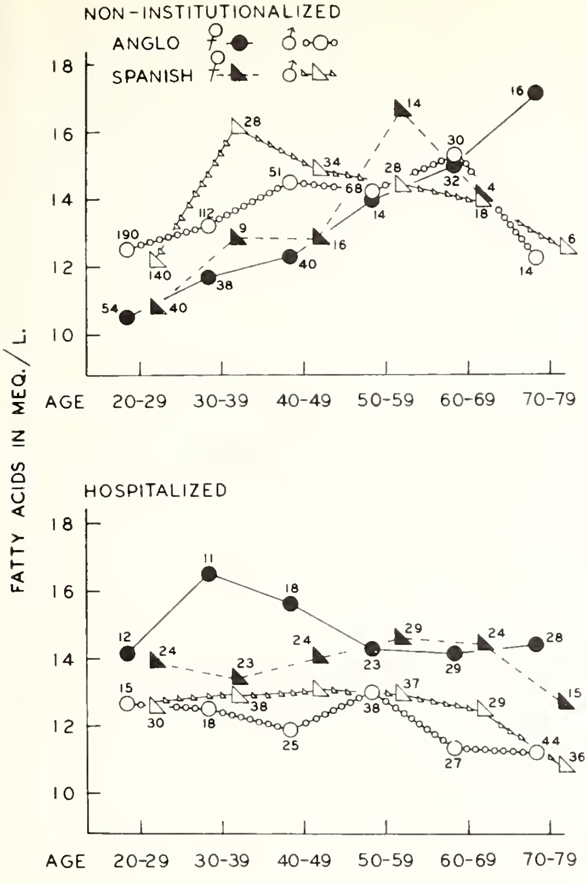

Fig. 1

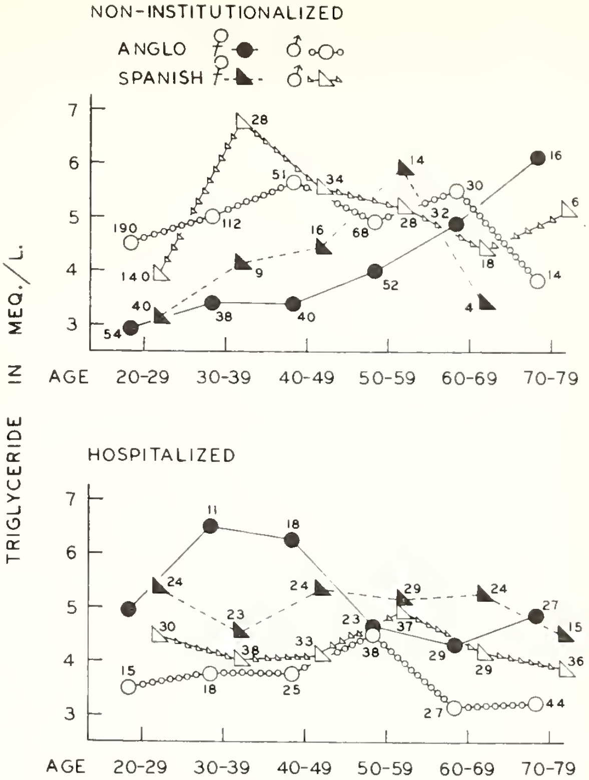

Fig. 2

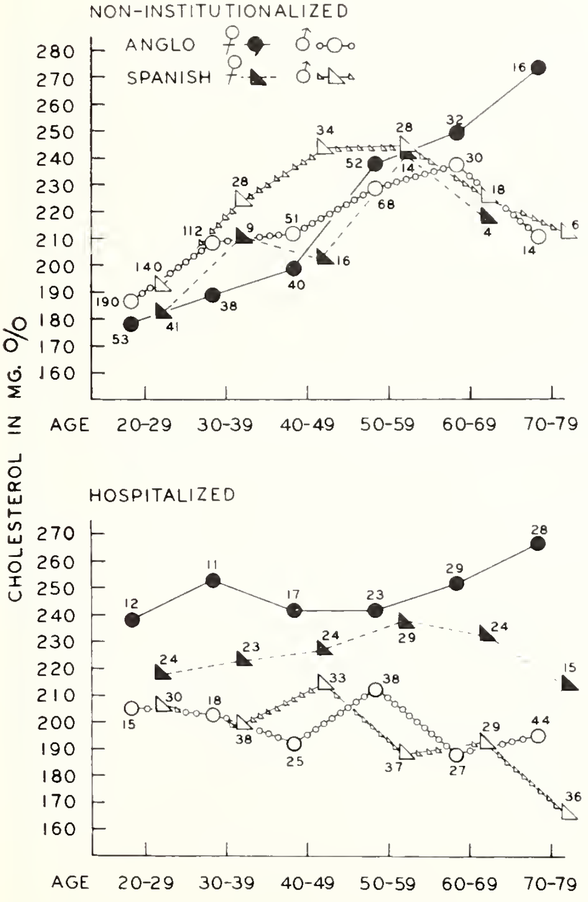

Fig. 3

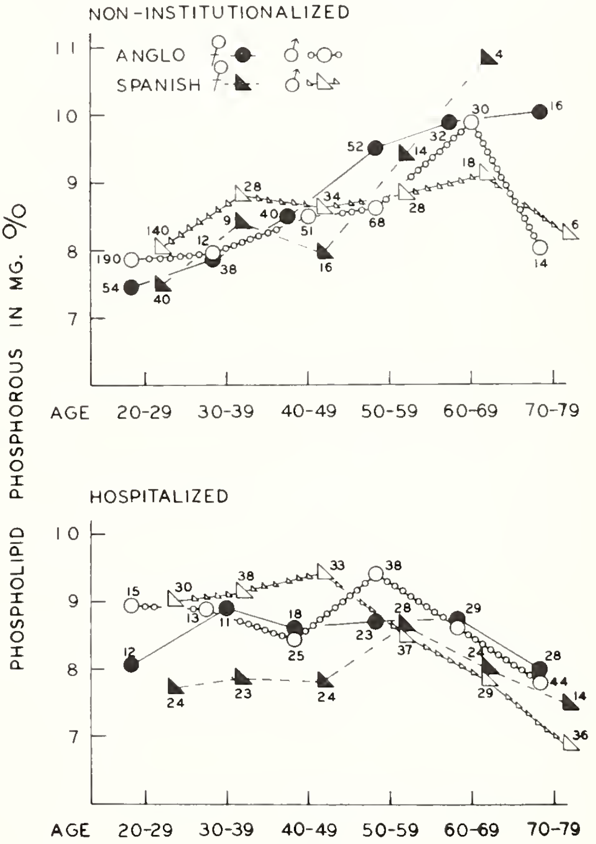

Fig. 4

Figs. 1-4 Comparison of means for overnight fasting serum lipid components in Spanish- and Anglo-American women (shaded symbols) and men (open symbols) living (a) at home in the environment typical for the ethnic group or (b) in the institutional environment of a state hospital. The figure near each symbol designates the number of individuals represented by that mean.

This report presents detailed results of a comparative study of four serum lipid components for 584 Spanish- and Anglo-American women and 1,094 men between 20 and 79 years of age. Dr. Shields is Chairman, Department of Biology, and Dr. Moore and Mr. Fisher are Research Assistants at New Mexico Highlands University. Dr. Sansoy, who is Director of Research at the New Mexico State Hospital, is a former House Officer of Medicine at the St. Louis County Hospital. This study was supported by National Institutes of Health grants HE-06942, -02 and -03.

normal contrasts with age and ethnic divisions (Figs. 1, 2, 3 & 4). In hospitalized Anglo women, however, fasting fatty acids, triglycerides and phospholipids reach a peak concentration 40 years earlier (30's) than in noninstitutionalized Anglo women. The relation of the serum lipid trends in hospitalized women of the two ethnic groups reverses compared to the noninstitutionalized population. Fatty acid and triglyceride concentrations are significantly greater in hospitalized Anglo than Spanish women during the 30's and 40's.

Means for fasting serum fatty acids, triglycerides and cholesterol are significantly higher† in hospitalized than in noninstitutionalized women during the 20's, 30's and 40's in Anglos and during the 20's only in the Spanish (Figs. 1-3).

3. *Three-hour postprandial concentrations of serum lipid components in women.* In noninstitutionalized women, postprandial concentrations tend to parallel the fasting values at a level 30% to 50% higher for fatty acids, 50% to 100% higher for triglycerides and about 20% higher for phospholipids. In hospitalized men,[1] however, the three-hour postprandial cholesterol means in Spanish and Anglo women decrease by from 2 mg/100 ml to 10 mg/100 ml during two decades each. In the hospitalized of both sexes, the postprandial increment in fatty acids and triglycerides amounts to about half that of the corresponding noninstitutionalized population.

4. *Differences in patterns for serum lipid components in women and men.* A number of directional changes in serum lipids in women differ from trends observed in corresponding age and ethnic groups among 1,094 Spanish- and Anglo-American men[1] (Figs. 1, 2, 3 & 4). Approximately one third of the men were hospitalized mental or geriatric patients. Cardiovascular deaths are higher for Anglo than for Spanish men. The differences are significant at the 0.050 level of confidence in the 50's and 60's and at the 0.001 level in the 70's.

A. *In noninstitutionalized populations.*—a. As in women, peak serum fatty acid and triglyceride concentrations occur ten to 30 years earlier in noninstitutionalized Spanish than in Anglo men. Fatty acid and triglyceride means are higher in noninstitutionalized men than in women to age 50 in the Spanish and to age 70 in Anglo-Americans. This difference is significant to age 50 in Anglos (Figs. 1 & 2). Cholesterol means are greater in men than in women to age 50 in both ethnic groups, but are significantly higher in only Anglo men, age 30 through 39,** and Spanish men, age 40 through 49 years.†

b. Serum lipid components reach peak concentrations ten to 30 years later in noninstitutionalized women than in men. Between age 40 and 70 years, the incidence of cardiovascular deaths is one third higher for Anglo men than for Anglo women or for the Spanish of either sex (Table 2). Cardiovascular deaths among Anglo-Americans, as percent of all deaths per decade, are significantly higher in Anglo women than men only past age 80.†[4]

TABLE 2

Cardiovascular deaths for men and women are shown through 29 years as percent of total births for each New Mexico ethnic population; cardiovascular deaths past age 30 are shown by decade as percent of individuals alive in the specific New Mexico ethnic group at the beginning of the ten-year period.

	Age						
	0-29	30-39	40-49	50-59	60-69	70-80	81-
Anglo women	.6	.7	1.9	4.7	12.4	33	69
Anglo men	.3	1	3.8	9.2**	17.9**	37†	62
Spanish women	1.1	1	2.7	5.7	14	28	52
Spanish men	.5	1	2.6	5.3**	12.9**	28†	51

c. In noninstutionalized Spanish-American men, fatty acids and triglycerides increase through only the 30's compared to an increase through the 50's in Spanish women. The incidence of cardiovascular deaths is higher in Spanish women than men only past age 60. In noninstitutionalized men, serum fatty acids and triglycerides are significantly higher in the

Spanish during the 30's† and in Anglo-Americans approach significance during the 60's.+

Cardiovascular deaths occur more frequently in Spanish than in Anglo men only before age 30 (Table 2).

B. *In hospitalized populations.*—As in women, the difference between serum lipid concentrations of hospitalized and noninstitutionalized men is frequently greater than the difference between men and women or between ethnic groups (Figs. 1-4). Except in Anglo women, serum lipid concentrations in hospitalized populations fluctuate little by decade. Fasting means for fatty acids, triglycerides and cholesterol are significantly higher during most decades in hospitalized Spanish and Anglo women than in corresponding hospitalized men (Figs. 1, 2 & 3). In contrast, serum fatty acids, triglycerides and cholesterol for all decades sampled are higher in noninstitutionalized men of both ethnic groups than in the hospitalized except during the 20's (Figs. 1, 2 & 3). Only phospholipid phosphorus is significantly higher in hospitalized than in noninstitutionalized Spanish and Anglo men (Fig. 4).

DISCUSSION

The incidence of coronary artery and hypertensive heart disease in New Mexico is approximately half of that for the nation.[5] Records of 59,249 deaths during the ten-year period (1954-1963) relate the low incidence of cardiovascular disease in New Mexico in part to the ethnic profile.[4] The New Mexico population consists predominantly of Spanish- and Anglo-Americans with minorities of Pueblo Indians, Navajos and Mexican nationals. Mortality statistics among the five New Mexico ethnic groups differ significantly in (a) deaths before age one, (b) cardiovascular deaths and (c) mortality rates for men and women for decades past age 50. The infant mortality under one year ranges from one fourth to one third of all deaths among Spanish-Americans, Pueblo Indians and Navajos compared to less than one tenth of all deaths among Anglo-Americans. While only 77% of the male population lives to age one among the Spanish and to age 40 among Anglos, only 9% of the Anglo males live to age 80 compared to 11% survivors among Spanish-American men. The percentage of deaths from all causes, as well as cardiovascular deaths, is greatest for Anglo men from age 40 through 79 years. Based upon the population born, the differences in males and females surviving by decade, is negligible except in Anglo-Americans. Compared to surviving Anglo men, 5% more Anglo women live to age 60, 10% more to 70 and 12% more to 80 years.

For the nation as a whole, the death rate among women from atherosclerotic and hypertensive heart disease is approximately 19% lower than among men.[5] Women are relatively insusceptible to cardiovascular disorders until during the postmenopausal years.[6] The large gain in the fasting lipid concentrations in noninstitutionalized Spanish and Anglo women during the 50's coincides with the shift between the premenopausal and the postmenopausal period.

Fatty acids represent a summation of all serum lipids. The serum triglyceride level, however, is considered the most reliable indicator of the tendency toward atherosclerosis after age 50.[6] The concentrations of serum cholesterol or of protein complexes in which cholesterol is carried have limited predictive value past age 40.[7] A diagnosis of coronary artery disease correlates more closely with the concentration of low density S_f 20-400 lipoproteins, which incorporate triglycerides, than with the concentration of S_f 0-20 lipoproteins which incorporate cholesterol. Serum triglycerides and cholesterol are relatively independent variables which respond differently to diet.[6] Cholesterol concentrations may decrease following a single high-fat meal, being less affected than triglycerides or fatty acids. Albrink and co-workers[6] selected a triglyceride concentration of 5.4 mEq/l or 6.4 mEq/l, allowing for experimental error, to identify candidates for coronary artery disease. As a fasting mean value, this level occurs only in the 50's (5.9 mEq/l) for Spanish women and in the 70's for Anglo females (6.1 mEq/l).

SUMMARY

Four serum lipid components are compared for 584 Spanish- and Anglo-American women and 1,094 men, age 20 through 79 years. Two hundred and sixty of the women and 365 of the men were hospitalized mental or geriatric patients.

(1) Fatty acid, triglyceride and cholesterol concentrations are greater in noninstitutionalized Spanish than in Anglo women to age 60. In noninstitutionalized men, serum fatty acids and triglycerides are significantly higher in the Spanish during the 30's† and approach significance in Anglo-Americans during the 60's.+

(2) In hospitalized populations, serum lipid components, except in Anglo women, remain on a plateau. The relation of the serum lipid trends in hospitalized women of the two ethnic groups reverses compared to the noninstitution-

alized population. Fatty acid and triglyceride concentrations are significantly greater in hospitalized Anglo than Spanish women during the 30's and 40's.

(3) The directional change with age in serum lipids sometimes differs in men and women of the same ethnic group. Maximum concentrations of fatty acids, triglycerides, cholesterol and phospholipids occur ten to 30 years later in noninstitutionalized Spanish and Anglo women than in corresponding male populations. These four serum lipid components are lower in noninstitutionalized women than in men to age 50 in the Spanish and to age 70 in Anglos. In women, fasting means for fatty acids and triglycerides to age 50, and for cholesterol to age 70, are much greater in the hospitalized of both ethnic groups than in the noninstitutionalized and are higher in hospitalized women than in men during all decades. Fatty acids and triglycerides are greater in noninstitutionalized than in hospitalized men. Serum fatty acid and triglyceride concentrations in the noninstitutionalized populations tend to correlate, by decade, with the ethnic and age incidence of cardiovascular deaths in New Mexico.

Acknowldegement: John W. Proctor, National Science Foundation undergraduate research colleague, Grant 2638, assisted with the preparation of graphs and final compiling of statistics for this paper.

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Methotrexate and Radiotherapy (Cont'd)

recognized among the patients who lost weight in our group.

SUMMARY

Combined MTX and radiotherapy may result in better cure rates and local control of advanced squamous cell carcinomas of the oral cavity and pharynx. Forty patients were submitted to a clinical trial to study the toxicity of the oral schedule of 7.5 mg of MTX per day with a total course of 14 days. Tolerable toxicity was encountered in all but five cases. Spontaneous regression of toxic symptoms and signs occurred in two or three weeks. Good or moderate tumor regression occurred in more than one half of the group with just MTX. At present, the follow-up is too short to draw any conclusions. The toxicity and tumor response of oral MTX will be compared to that of one schedule of intravenous MTX.

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(The last article in this series will discuss the role of surgery in the treatment of advanced oral pharyngeal cancer.—ED.)

President's Message

Again, as on last month's President's Page, I urge you to vote for the candidates of your choice and to ask your associates, friends and patients to do the same.

There has been considerable agitation throughout the country for change, which, of course, is the prerogative of the electorate and not of various idealogists or activists who shout "change" for the sake of change alone and, then, conveniently disregard realities. I seriously doubt that any candidate elected to any position can institute any startling innovation in the face of the present crisis facing the country and the world. not to mention the state, the counties and the urban areas.

We must, therefore, concentrate upon those candidates who can lead and who can rally good advisors around them so that a reasonable, moderate approach can be made to our many problems. This involves a type of conservatism which we, as members of the medical profession, should be able to promote. Call it enlightened conservatism—the slow, logical approach. which can lead to permanent and constructive results over a period of time with thorough discussion and examination of every step. This is the only way, and the candidates who agree to this are those the country needs. The way may be rough and there may be crisis, but let us keep our eyes on the goal. Let us help constructively where change is needed and oppose it when it is for the sake of change alone.

David N. Kerr, M.D.

Also, let us carry these thoughts into our local medical society elections and place our strongest and most public-minded colleagues in positions of authority and decision. We need these men!

These officers will meet in Jefferson City in January to consider some of our special problems.

Vote right in November! Join us in January!

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Plan now to join your colleagues in Miami Beach. Be sure to look for the complete scientific program, plus forms for advance registration and hotel accommodations in the October 21st issue of JAMA.

Woman's Auxiliary

Home-centered health care, use and abuse of alcohol and drugs by today's youth, medical manpower, seminars, legislation, AMA-ERF, speakers, the S.S. *Hope* and health careers were some of the subjects discussed at the 25th Annual Conference of the Woman's Auxiliary to the AMA in Chicago on September 29-October 2.

One of the highlights of the meeting was the AMA Seminar on Public Speaking which was conducted by Roy Wood, Ph.D., associate dean, School of Speech, Northwestern University; M. T. Enright, coordinator, AMA Speakers Program; E. A. Uzemack, director, AMA Officers Services Department; and Richard M. Dumont, director, AMA Radio, TV and Motion Pictures Department.

Auxiliary volunteers participated in the seminar while the remainder of the conference audience observed. The program began with a panel discussion on the art of public speaking, which was followed by a manuscript reading drill. Next, Dr. Wood presented a short talk on organizing a speech after which the 12 Auxiliary volunteers rehearsed the live speech with critique. After the speech was rehearsed, volunteers delivered the improved speech which was videotaped and later criticized by the instructors.

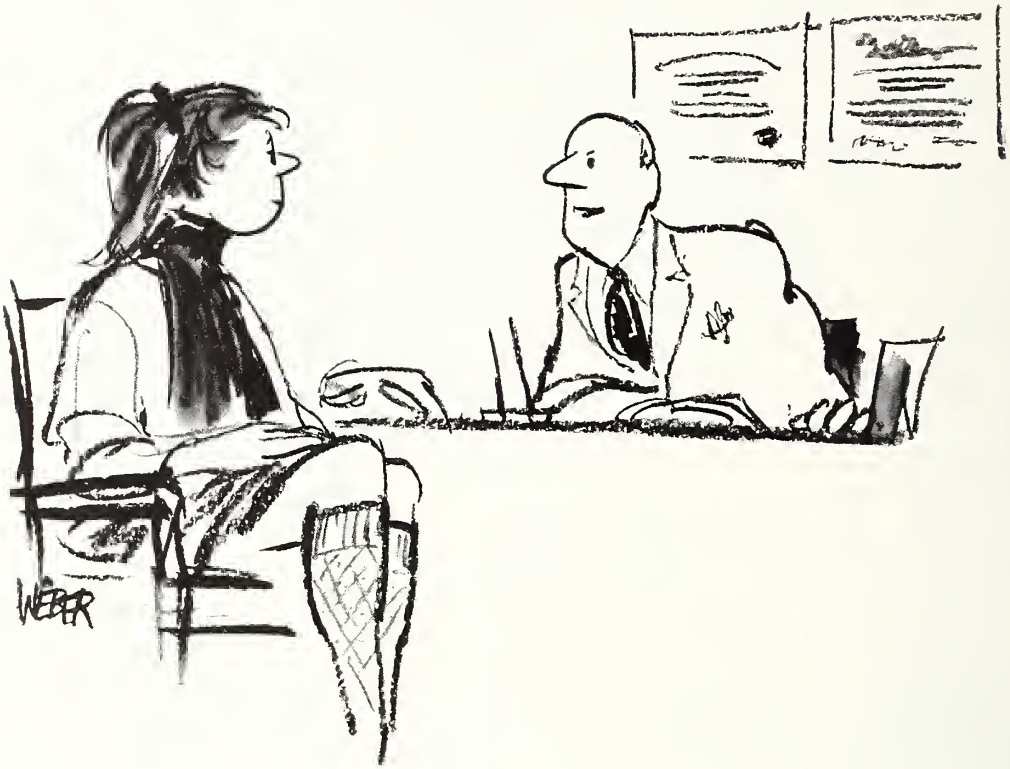
Mrs. E. F. Butler, President

"Truth or Consequences" was discussed by Mrs. Sue Boe, consumer information specialist, Pharmaceutical Manufacturers Association. Mrs. Boe said, "We (PMA) are not opposed *per se* to the marketing of drug products by their generic names, but we are against any system that would compel physicians to prescribe generically or which would allow anyone to substitute the product of a different manufacturer for that specified by the physician—for the scientific reason that the product of one manufacturer may produce significantly different results in patients from that of another, even though both contained the same active ingredients."

Dr. Dwight L. Wilbur, President of the AMA, spoke to us on "Medical Manpower—Where Do We Go From Here?" He reminded the Auxiliary of its influential position in guiding youth into health careers and emphasized that programs in health careers must "escalate vertically."

Shirley Temple Black was the guest speaker at the AMPAC dinner. Mrs. Black stressed that our country needs strong, great new leadership, new idealism and new intelligence. She encouraged the women to become more involved and to listen to the candidates and what they say. She stressed the importance of "preserving peace in the world" and the NATO structure.

May each of you and your families have a Happy Thanksgiving! Let's not forget to give thanks for our many blessings.



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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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EDITORIALS

PARADOX AND PERSPECTIVE IN THE PRACTICE OF MEDICINE

(This editorial orginally appeared in the July, 1968 issue of The Wisconsin Medical Journal. *It was introduced by D. N. Goldstein, M.D., Editorial Director, who stated, "Once in a great while a piece of writing comes along, such as the following guest editorial, for which no word seems adequate except transcendental. When Dr. Leslie G. Kindschi reviewed an article on coronary atherosclerosis in this issue, he commented upon the danger of engrossment in statistical correlations, and was invited to write an editorial on the subject. Lord, how it needed saying. His brilliant exposition should be read many times by every physician." The Editors of* MISSOURI MEDICINE *agree.)*

A paradox is a proposition that is valid in terms of strict logic, but absurd in terms of experience and common sense.

The classic example was proposed by the ancient Greek, Zenno, who, by using strict Greek logic, "proved" that the fleet footed Achilles could not possibly win a race with a slow moving tortoise, if the tortoise were given any head start at all.

This is absurd, of course. But it is just another way of saying that theory does not always work out in practice or that every rule (including this one) has its exceptions. It is the recognition of these exceptions that brings the quality of perspective into the process of reasoning.

The modern practitioner of medicine can define many parallels in his day-to-day experience. Much of what he does is based on theory, and many of his decisions are based on statistical odds. This is the logic that guides him, but it too can also trap him in paradoxes if he regards logic as infallible or if he loses his ability to distinguish between the worlds of fantasy, possibility, probability and actuality.

The most precise area of medical science lies in the field of infectious disease. Dominated by the rigid discipline of Koch's Postulates, abstract theories gradually acquired the substance of facts. Even when a paradox appeared, as happened when it became evident that many people exposed to tuberculosis did not develop the clinical disease, resolution was possible when the factors of quantitative exposure and the genetic variables of host resistance were defined.

It must be noted that in the field of infectious disease we were dealing with a single etiologic agent in the environment and that the biological response of the host was consistent enough to minimize the role of genetic variables in the equation.

But in the fields of neoplastic, metabolic, degenerative and mental disease, the problems are entirely different and infinitely more complex. We have been unable to define the single environmental etiologic agent according to Koch's Postulates, and we are constantly finding major genetic variables about which we know little or nothing.

Since Koch's Postulates do not seem to apply, we have substituted the discipline of statistics, in particular, the discipline of statistical correlation. But the difference is only a matter of degree. Koch's Postulates require a 100% statistical correlation as proof, whereas modern thinking seems to be satisfied with considerably less, providing, of course, that the correlation is "statistically significant," whatever that may mean.

But no matter how you slice it, anything less than 100% correlation is still in the category of evidence rather than in the category of proof. And evidence can be circumstantial and deceptive.

Thus we run the risk of being trapped in a paradox whenever we begin to blur the essential distinction between evidence and proof. The risk is particularly great when the evidence provided by a mass of "significant statistical correlation" is lifted out of its essential contex, given the mantle of truth (by implication at least) and used as the basis for a crusade.

Statistical method is undoubtedly the predominant discipline in modern clinical research. But it always poses a challenge to intellectual integrity. We can meet this challenge only by maintaining a proper intellectual perspective. Otherwise we may well become lost in a maze of cumulative paradoxes from which there is no escape.

LESLIE G. KINDSCHI, M.D.
The Wisconsin Medical Journal

FEDERAL MEDICAL PROGRAMS; TO THE MOON AND BACK

How many times have you read articles where writers, in an effort to make a point, have converted numbers into distances. For example, we are sure you have read somewhere that if all the cigarettes smoked by Americans in 1967 were laid end to end (or butt to butt), they would stretch from Slocomb to Saturn and back again. And we are sure there was an asterisk accompanying these statistics, said asterisk pointing out that the computations didn't take into consideration the cigarette which is a silly millimeter longer.

Forgive us, please, but we have come up with a similar set of statistics as they relate to the involvement of the federal government in health and medical care. Without the help of computers, but instead using only a dull pencil and a scratch pad, we have made the following statistical conclusions:

If all the money the federal government is to spend in health-medical care in 1968 were converted into one dollar bills and these bills were laid end to end, they would come close to making four roundtrips from the earth to the moon. We could, no doubt, make it all the way back from that fourth trip by adding just a little platformate.

To be a little more precise, this imagined ribbon of one dollar bills would extend a distance of 1,343,391 miles compared with the mileage of four roundtrips to the moon of 1,433,130 miles.

Pardoning a very subtle pun, these lunatic figures are based on a recent AMA report which itemized federal expenditures contemplated for fiscal 1968 in the health-medical field. This report indicated a total of $14,186,210,392 (that is billions) will be spent during the year in this field. This is a hefty 20% increase over health-medical spending by the federal government in fiscal 1967. It should also be recalled that federal spending under Title XIX has just begun and, eventually, this program will put all others to shame from a cost standpoint.

More alarming than the expenditures, however, is the fact the federal funds means federal involvement, federal interference and, eventually, federal control.

The doctor in Alabama and elsewhere who continues to operate under the premise that a physician should practice medicine and let the politicians practice politics is riding for a fall. And the vehicle he is riding is a horse and buggy.

The Journal of the Medical Association of the State of Alabama

"GIT, DOCTOR! GIT!"

On the seventh and eighth days of March, 1862, a battle in Arkansas saved the State of Missouri for the Union. Called the Battle of Pea Ridge or Elkhorn Tavern (somehow I prefer the latter), the combatants numbered some 16,000 Confederates and 10,000 Federals.

The Confederates had everything going for them. They outnumbered their enemy; they maneuvered with the element of surprise, attacking the Federals in the rear; they had more experienced general officers; and they had 1,000 Cherokee Indians whose war cries outdid the terrifying rebel yell. In addition to this, they had more artillery pieces or "shooting wagons," as the Cherokees called them, and some of the most rugged fighting men ever assembled for battle.

For what they lacked in military discipline they made up in sheer fighting spirit. Tradition has it that one Confederate cavalry officer, when ordered into combat, yelled at his troopers in the words they understood . . . "Prepare yurself to git ready to git on yur critter! . . . Git!" They got!

But the fortunes of war were against the Confederates. Their army was exhausted from forced marches, half-starved and out of ammunition. The Cherokee Indians broke and fled at the bursting of artillery shells. Three Confederate generals fell on the field of battle. With their leadership gone, the helpless men in gray retreated down the Huntsville road and Missouri was saved for the Union.

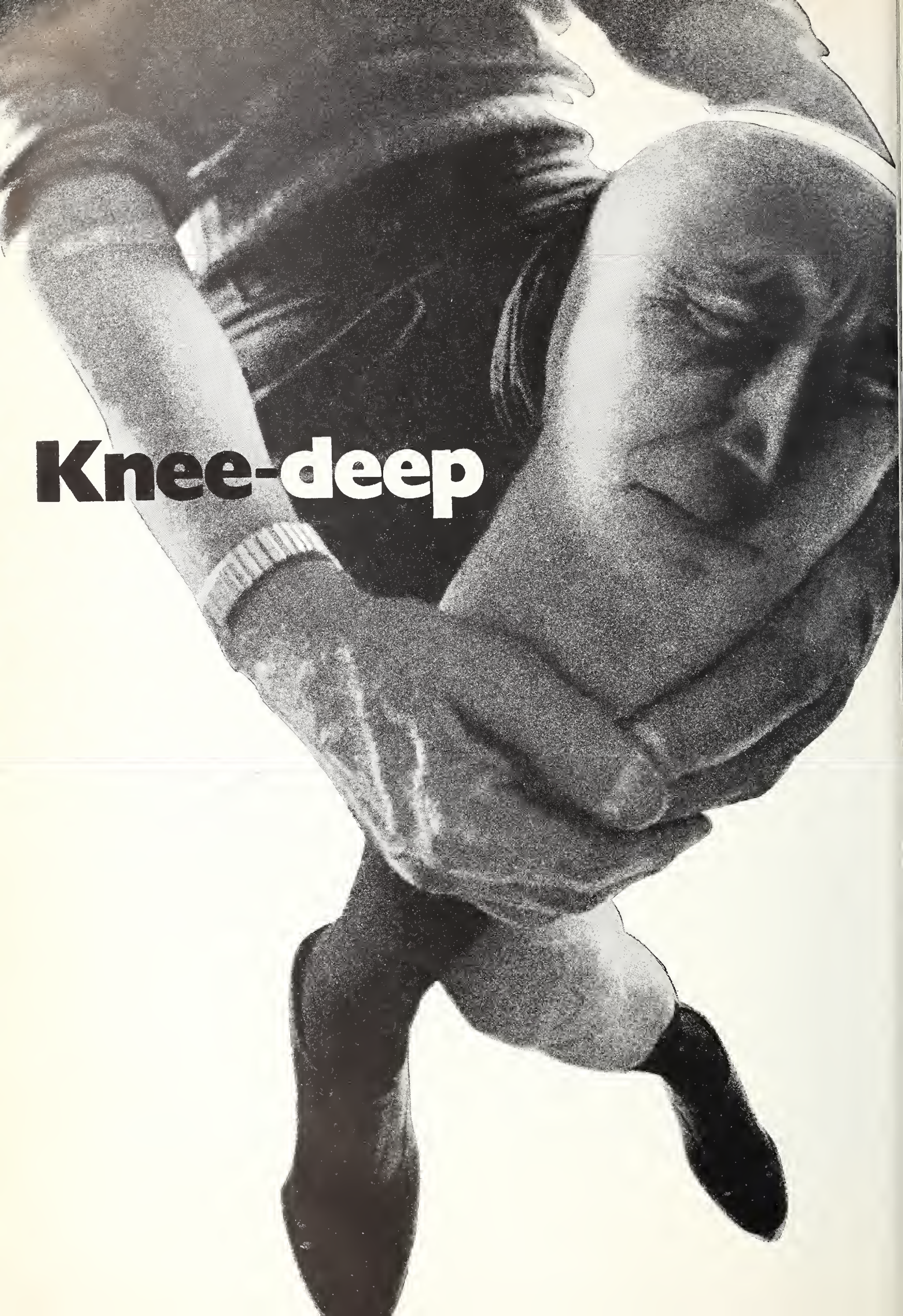
It seems to me that organized medicine is always on the defensive—reactive and protective of the status quo. I believe it is time for the rugged, individualistic physician to become an activist . . . to "git!" If we have something of value to defend and new goals to attain then we should . . .

Git going!
Git together!
Git active!
Git constructive!
Git effective!

It's either "Git, doctor! Git!" . . . or the Huntsville road!

ROBERT M. MATHEWS, M.D., President
Johnson County Medical Society
The Greater Kansas City Medical Bulletin

Knee-deep



Continuing Education Coming Events

Nov. 11-14	**Internal Medicine** Postgraduate Medical Study (4-day course) University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kan.
Nov. 16-17	**20th Annual Scientific Assembly** Missouri Academy of General Practice Chase-Park Plaza Hotel, St. Louis
Nov. 22-23	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Dec. 4-6	**Refresher Course** Kansas City Society of Ophthalmology and Otolaryngology Plaza Inn Motel, Kansas City

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County Society News

FIRST DISTRICT

COUNCILOR

JOSEPH L. FISHER, M.D., ST. JOSEPH

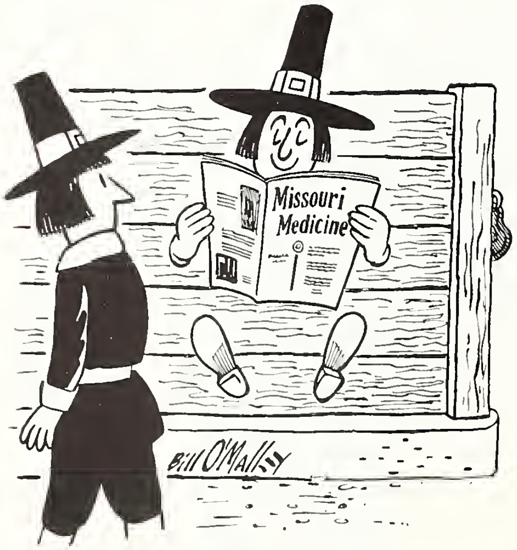
Buchanan County Medical Society

The annual election meeting of the Buchanan County Medical Society was held at the Hoof & Horn Restaurant in St. Joseph on October 2. Officers elected were O. W. D. Craig, M.D., President-Elect; Sharon E. Waggoner, M.D., Vice-President; Lawrence H. Pifer, M.D., Secretary; and Robert W. Kieber, M.D. Treasurer. This marks Dr. Kieber's 16th consecutive term in this office.

Dr. Henry C. Willumsen was selected as a member of the Board of Censors. Drs. John N. Martin, Richard V. Riddell and Ernest E. Wadlow were selected as Delegates to the MSMA, with Drs. Allen I. Herman, Thompson E. Potter and William B. Rost as Alternates. Wilbur P. McDonald, M.D. was named to the Committee on Public Policy; Charles F. Shevlin was elected for a five-year term on the Board of Trustees; and Berwyn H. Moen was chosen as a member of the Executive Secretary Committee. Dr. Moen is completing his term as President of the Society.

The new officers, with John L. Mothershead, M.D., President-Elect for the past year, will be installed at the Annual dinner of the Society on December 8.

O. W. D. Craig, M.D., Secretary



Grand River Medical Society

The Grand River Medical Society and its Woman's Auxiliary met at the Strand Hotel in Chillicothe on September 12.

Following the social hour and dinner, the scientific program for the evening was presented under the auspices of the Society's Program Committee and featured as guest speaker John L. Barnard, Jr., M.D., orthopedic surgeon from Kansas City. Dr. Barnard discussed "Early Weight Bearing in Treatment of Tibial Fracture."

Windsor B. Atcheson, M.D., Secretary

FOURTH DISTRICT

COUNCILOR

ROBERT A. MAYER, M.D., ST. LOUIS COUNTY

Lincoln-St. Charles County Medical Society

The Lincoln-St. Charles County Medical Society met at the Dardenne Country Club in St. Peters on September 24. The wives of the members were guests at the social hour and dinner preceding the business meeting and election of officers.

Dr. Vincent P. Perna was elected President of the Society for 1969. Dr. Earl J. Wipfler was elected Secretary.

The subject of the proper treatment for obesity received considerable attention during the business meeting. It was decided to refer the matter to the Public Relations Committee with the recommendation for a public educational program through the local newspapers to alert obese individuals to the dangers of certain weight reduction methods and to encourage them to approach their problem through their family physicians.

Vincent P. Perna, M.D., Secretary

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D.

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society meeting was held on September 10 at Maib's Cafe in Lexington with 15 members and guests present. A program was not scheduled for this meeting because of the election of officers.

Following the dinner, the meeting was called to order by President Franklin A. Crozier. Minutes and correspondence received during the Society's period of inactivity during the past few months were read and discussed.

After this discussion, the election of officers for the year, 1969, was held. The following officers were elected: President, Joe Ward, M.D., Lexington; President-Elect, W. E. Koppenbrink, M.D., Higginsville; Secretary-Treasurer, Wayne Boydston, M.D., Odessa; Lafayette County Delegate to the MSMA, Joseph S. Cope, M.D., Lexington; Alternate, Wayne Boydston, M.D.; Ray County Delegate, George Davault, M.D., Richmond; Alternate, Herbert Huber, M.D., Richmond.

Following the election, the meeting was adjourned.

Wayne Boydston, M.D., Secretary

Pettis County Medical Society

A joint meeting of the Medical Societies from Pettis County, Henry County, Johnson County, Saline County and Lafayette-Ray Counties was held on September 11 at the Holiday Inn in Sedalia. The members' wives were guests for the social hour, dinner and program.

Dr. Dunlop

The program was sponsored by Merck Sharp & Dohme and presented guest speaker Edwin Dunlop, M.D., psychiatrist, who discussed "Psychotherapeutics."

Dr. Dunlop, who is from Attleboro, Mass., is Director of Research at the Fuller Memorial Sanitarium and Director of the Fuller Foundation. He is Editor of *Digest* and Associate Editor of *Psychosomatics.* He specializes in psychopharmacology research, has published approximately 40 papers in this field of psychiatry and lectures extensively in this country and abroad.

Elmer H. Van Dyke, *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area Medical Society

The Mineral Area Medical Society met in the Hoctor Building in Farmington on September 26 with the following members present: Drs. Jack Mullen, Stanton Hardy, C. H. Appleberry, Robert A. Huckstep, Alvan G. Karraker, Charles W. Chastain and F. Richard Crouch. Dr. Channabasappa was a visitor.

The program was presented by Drs. Richard W. Yore of St. Louis and James Reynolds of Neosho. An interesting program on the subject of the treatment of heart block was presented and well discussed. Dr. Yore demonstrated the intraveneous cardiac catheter and the intramuscular cardiac catheter. He also demonstrated the two types of pacemakers.

No business was transacted at this meeting.

William Ford, M.D., Secretary

Missouri Medicine *welcomes comments and contributions from its readers. Correspondence should be addressed to the Editor with the understanding that such correspondence may be rejected or published (in entirety or in part) at the discretion of the Editor. With the exception of scientific papers, correspondence usually cannot be acknowledged or returned.*

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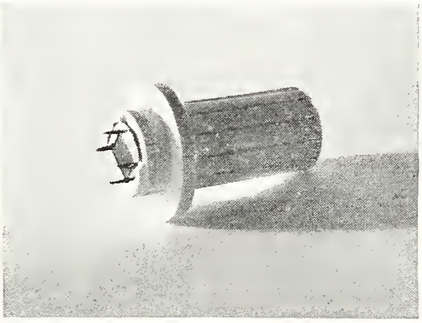

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New Members

Frank R. Banks, M.D., Smithville Clinic, Smithville, has become a member of Clay County Medical Society. Dr. Banks is a native of Jasper, Ala., received his preliminary education at the University of Mississippi and his M.D. degree at the University of Mississippi in 1961. He specializes in obstetrics and gynecology.

Samuel Lee Gaston, M.D., 101 Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. Gaston is a native of Harrison, Ark., received his preliminary education at Arkansas Polytechnic College and his M.D. degree at the University of Arkansas in 1964. He specializes in radiology.

Edward A. Glenn, III, M.D., 8630 N. Oak, Kansas City, has become a member of Clay County Medical Society. Dr. Glenn is a native of St. Louis, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1967. He is in general practice.

Wm. Michael S. Nesbit, M.D., 1317 Fieldcrest, Columbia, has become a member of Boone County Medical Society. Dr. Nesbit is a native of Brevard, N.C., received his preliminary education at the University of Virginia and his M.D. degree at the University of Virginia in 1962. He specializes in neurology.

John Henry Tatum, M.D., 623 Pine Blvd., Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Tatum is a native of Mannsville, Okla., received his preliminary education at the University of Oklahoma and his M.D. at the University of Oklahoma in 1958. He specializes in surgery.

In Memoriam

Fallet, Charles E., M.D., DeSoto, a graduate of National University of Arts & Science, 1915; member of Jefferson County Medical Society; aged 76; died Sept. 9, 1968.

Carrier, Edson C., M.D., Kansas City, a graduate of the University of Kansas, 1932; member of Jackson County Medical Society; aged 61; died Sept. 18, 1968.

Middleman, Isadore C., M.D., St. Louis, a graduate of St. Louis University, 1933; member of St. Louis Medical Society; aged 58; died Sept. 21, 1968.

AMA National Conference on Community Health Planning

Community Health Planning—the Who, What, When and How—will be the theme for the American Medical Association's National Conference on Community Health Planning on November 30 in Miami Beach.

Case histories of health planning activities at the state and local levels will be presented during Saturday morning's opening session. These presentations will reflect a variety of goals and approaches as developed in light of local circumstances.

The afternoon program will be devoted to multiple workshops designed to provide a thorough orientation to the actual process of planning—how a community goes about organizing for health planning, assessing needs and resources, defining goals and alternative solutions and establishing action programs.

The one-day conference, sponsored by AMA's Board of Trustees and the Council on Medical Service, will be held at the Hilton Plaza Hotel.

Additional information may be secured by writing to the AMA Department of Community Health, 535 North Dearborn St., Chicago, Ill. 60610.

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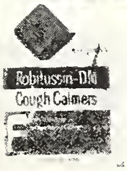
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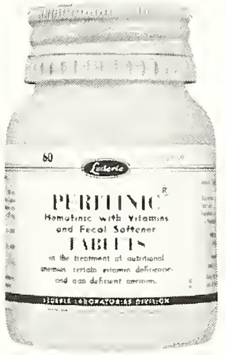
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Washington

(Continued from page 891)

six million mentally retarded live in urban ghettos and rural slums and were unwanted, unplanned children.

The Committee's second annual report, entitled "The Edge of Change," dealt with the high incidence of retarded development among the poor, the shortage of manpower to serve the retarded and the low quality of residential care available to most of them.

The committee's recommendations called for the following:

—Education and health services for every child from birth.

—An insurance system to give parents a free choice in selecting needed services.

—Development of national accreditation standards for residential facilities for the retarded.

—Voluntary family planning services for all Americans.

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WANTED: Associate or partner in general practice in Jefferson City, Mo., 30 miles from Missouri University Medical Center. A practice overwhelming after 2½ years. Net income, $35,000 to $45,000 annually. Building a new medical building with room for one or two associates to be completed September, 1968. If interested, pleace call Jefferson City, Area Code 314, 635-2542 or 635-6580.

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TWO INTERNISTS—Board eligible or certified, wanted by multi-specialty group in Central Texas associated with 100-bed hospital. $20,000-$24,000 annual salary; early partnership; no investment. Write G. H. Wahle, Jr., M.D., King's Daughters Clinic, Temple, Texas, or call collect, AC 817 778-5501.

INTERNIST-CARDIOLOGIST—Board qualified; age 32; military completed. Seeks group association. Availability July, 1969. Contact Box 351, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

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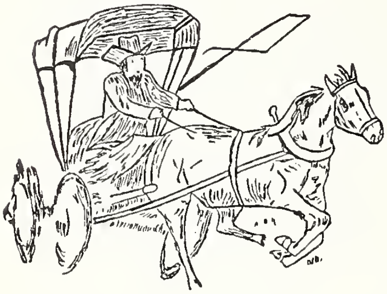

FORTY YEARS AGO

V. V. Wood, M.D., St. Louis, spoke on "Focal Infection" at the 71st Annual Meeting of the Missouri State Medical Association in Columbia. He stated, "It seems that, perhaps, focal infection has been a bit overworked during the past decade as a cause of human ills. Since Dr. F. Billings read his epoch-making paper on focal infection and published it in The Journal *of the American Medical Association* in 1916, nearly every obscure ailment on record has been attributed to some metastatic infection. We are now beginning to awaken to the fact that focal infection is not the sole and complete explanation of many conditions that we believed or fondly hoped would be cleared up by eradication of infection."

The Buchanan County Medical Society met on September 18. The meeting was called to order by President E. A. Gummig, M.D., St. Joseph. Dr. Caryl A. Potter, St. Joseph, read a paper on "Further Observations in the Treatment of Duodenal and Fecal Fistulae." Dr. Potter discovered some time ago that wet dressings of beef broth together with a solution of one-tenth normal hydrochloric acid prevented digestion of the tissues by the escaping duodenal juices. He reported a number of cases treated by other physicians and by himself in this manner. In practically all of the cases reported, other methods of treatment had been tried first, but to no avail. Almost immediately after beginning the use of the one-tenth normal hydrochloric acid solution and beef broth, breaking down of the tissue stopped and healing began. All cases reported recovered in a remarkably short time under treatment.

TWENTY-FIVE YEARS AGO

The Fifth Councilor District held a clini session in collaboration with the Boone Count Medical Society at the Ellis Fischel State Cance Hospital in Columbia on September 8. Approximately 65 physicians attended the meeting. Th morning scientific program included observatio of an operation for large bowel cancer performed by Dr. Everett D. Sugarbaker of th Hospital staff.

McMillan Hospital, St. Louis, a 14-story uni of the Barnes Hospital group which was erecte 12 years ago but only partly finished an equipped, was opened for patients during October. The hospital has a 160-bed capacity.

Dr. J. G. Bruce, Jefferson City, was elected chief of staff of St. Mary's Hospital at a meeting on September 22. Other officers elected were Drs. Joseph Summers, Jr., vice-president; H. B. Stauffer, secretary-treasurer; and Drs. R. P. Dorris, M. R. Aldridge and F. W. Gillham, members of the Executive Board.

The city of Butler has purchased the Butler Memorial Hospital and it will be operated by a Board of Trustees beginning November 1.

TEN YEARS AGO

Wendell G. Scott, M.D., St. Louis, has been approved for promotion to Rear Admiral in the Naval Reservist Medical Department, the Navy Department announced on September 10 in Washington, D. C.

New president of the Burge-Hospital medical staff in Springfield is M. Wendell Dietz, M.D., who succeeds Joseph Siceluff, M.D. Other officers elected were Drs. E. H. Rainwater, president-elect; Don Gose, secretary; and Albert Simpson, treasurer. Drs. Kenneth Knabb and Vernon Kolze were elected to the Executive Committee.

The Jefferson County Medical Society had its yearly meeting with the high school athletic coaches of the county on August 26 at the Jefferson Memorial Hospital. All of the larger schools were represented by at least three coaches. The following physicians were present: Drs. Roger Allbee, J. J. Bredall, Arthur Sexauer, Thomas A. Donnell, J. L. Mayfield, K. B. McKinstry, C. E. Rice, J. F. Rutledge and E. J. Senn.

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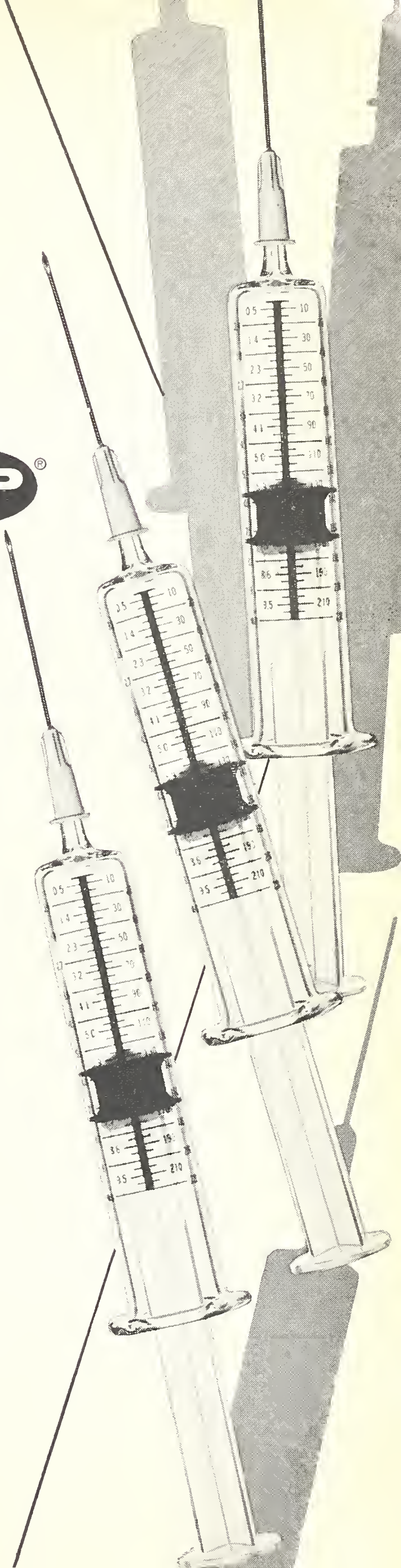

Missouri Medicine

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Scheduled January 11-12, 1969

County Society Officer's Conference To Feature Outstanding Speakers

Jim Reed

The director of the American Medical Association's Communications Division, two outstanding Missouri lawmakers and one of Missouri's best-known newspaper publishers will be among participants at the second annual County Society Officer's Conference of the Missouri State Medical Association on Jan. 11 and 12, 1969, at the Ramada Inn, Jefferson City.

The guest speakers are Jim Reed of the AMA Communications Division; State Senator A. Clifford Jones, Republican, Ladue; State Representative Ronald Reed, Democrat, St. Joseph; and Mr. Robert M. White II, publisher of the *Mexico Ledger*.

The conference, which has as its theme "Super Bowl Huddle," opens at 1 PM on Saturday and concludes with a buffet luncheon on Sunday. The theme is built around the Super Bowl football game to be played that Sunday afternoon in Miami. Television coverage of the game will be available after the buffet.

All Members Are Invited

Special invitations are being sent to presidents, presidents-elect, secretaries, executive secretaries and chairmen of the Legislative and Public Relations Committees of all county societies as well as to MSMA officers. All members of the Association are invited to attend and may use the preregistration blank printed on the other side of this page. Preregistration is requested.

Jim Reed of Chicago has been director of the AMA Communications Division since 1961. He joined AMA in 1958 to start the highly-successful *AMA News*. Prior to joining AMA he was executive editor of the *Topeka (Kan.) Daily Capital*.

Senator Jones was elected to serve a second term in the Missouri Senate on Nov. 5. He had formerly served four terms in the House. He is an attorney and a businessman.

Representative Reed was elected to his third term in the Missouri House on Nov. 5. He is a practicing attorney in St. Joseph and active in civic affairs.

Mr. White of Mexico is the third generation editor and publisher of the *Evening Ledger*. Before becoming publisher of the Mexico paper he served as president, editor and chief executive officer of the *New York Herald Tribune*. He recently was president of Sigma Delta Chi, National Journalism Fraternity. He will be the Saturday night banquet speaker.

Other Participants Named

Participants in addition to those named above include Dr. Gerald L. Miller, Kansas City, chairman of the MSMA Public Service Committee; Mr. Kenneth Bopp, Jefferson City, director of the State Comprehensive Health Planning Agency; Dr. John Matthews, Jefferson City, chairman of the MSMA Committee on Legislative Matters; Dr. David N. Kerr, St. Louis, MSMA president; Dr. Arthur Neilson, St. Louis, delegate to the AMA; Dr. Wilson J. Ferguson, Sikeston, president of the Semo County Medical Society; Dr. Doyle C. McCraw, Bolivar, MSMA president-elect; and Mr. Raymond McIntyre, MSMA executive secretary.

Tickets for the Saturday banquet and Sunday buffet may be purchased at the conference registration desk. All desiring overnight accommodations should make advance arrangements with Ramada Inn. Wives are invited to all sessions but especially invited to attend the Saturday night social hour and banquet and the Sunday buffet.

MSMA News

ANNUAL SESSION IN MARCH

A well-rounded program with topics of interest for all physicians will highlight the 1969 Annual Session of the Missouri State Medical Association scheduled for March 20-23, 1969, at the Chase-Park Plaza Hotel in St. Louis.

In addition to scientific programs of great current interest, there will be several sessions on today's economic problems which concern physicians.

Missouri's three medical schools will participate in the program and sponsor sessions. Participants include the Department of Pathology from the University of Missouri-Columbia, Department of Otolaryngology from Washington University, and the Department of Medicine from St. Louis University.

Other organizations sharing the sponsorship of programs during the 111th Annual Meeting include the Missouri Heart Association, Missouri Surgical Society, Missouri Chapter of the American Academy of Pediatricians, Missouri Federation of Urologists, Missouri Academy of Psychiatry, Missouri Ophthalmological Society, Inc., Missouri Society of Internal Medicine and Missouri Chapter of the American College of Chest Physicians.

Missouri State Medical Association Committees which are joining in the sponsorship of programs include the Medical Economics Committee, Maternal Welfare Committee, Committee

(Continued on back of this Page)

Two MSMA Officers Die

Dr. Charles Osborne

Dr. Thompson Potter

Two officers of the Missouri State Medical Association died during the month of October. The two were Vice President Charles D. Osborne, M.D., of Sedalia and AMA Alternate Delegate Thompson E. Potter, M.D., St. Joseph.

Dr. Osborne was a graduate of the University Medical College, Kansas City, and a member of the Pettis County Society. He died on Oct. 22, 1968, in Sedalia, at the age of 82.

Dr. Potter was a graduate of Columbia University College of Physicians and Surgeons, New York City, and a member of the Buchanan County Medical Society. He was 53 years old. He was also a member of the Governor's Advisory Council on Comprehensive Health Planning and Chairman of the MSMA Committee on Comprehensive Health Planning. He died Oct. 26, 1968, while on a tour of Spain.

AMA Field Office To St. Louis Area

Missouri will be the site of one of the twelve field offices to be established by the American Medical Association as a result of the recent establishment of the new Division of Public Affairs.

Mr. Timothy B. Norbeck has been named as field representative for the states of Missouri, Illinois and Indiana. He will establish an office in the St. Louis area and make his home in that area.

Mr. Norbeck comes to Missouri after a tour as field staff representative for the AMA in the New England states.

Mr. Arthur W. Seeds, former field staff representative for Missouri, will be moving to Memphis, Tenn., where he will serve the states of Alabama, Arkansas, Louisiana, Mississippi and Tennessee.

Both men were to assume their new assignments effective on Dec. 1.

Occupational Health Conference In State

Plans have been announced to hold the 29th Congress for Occupation Health at the soon-to-be-completed Stouffer's Riverfront Inn, St. Louis, on Sept. 15-16, 1969.

Among those involved in planning the Congress are Richard A. Sutter, M.D., St. Louis, a member of the AMA Council on Occupational Health, and John W. Berry, M.D., St. Louis, Chairman of the MSMA Committee on Industrial Health.

ANNUAL SESSION (Cont.)

on Industrial Health and Medical-Legal Committee.

The Missouri Regional Medical Program and the Bi-State Regional Medical Program will also share in the sponsorship of a session during the annual meeting.

Speaker for the Saturday night banquet will be Timothy Hays, mayor of Whoopup, Mo.

Mayor Hays promises that with the 1968 election campaign now being history, he will make a non-political speech.

Other speakers scheduled for events during the annual session include Robert L. Burnes, executive sports editor of the *St. Louis Globe-Democrat*, at the Friday general luncheon and United States Representative Durward Hall, M.D., Springfield, at the Saturday general luncheon.

Three meetings of the House of Delegates are scheduled during the annual session.

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County Society Officer's

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Jan. 11-12, 1969

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The Council Reports

Special Meeting—Sept. 6, 1968

Joseph L. Fisher, M.D., St. Joseph, Chairman, called the meeting to order. The following persons were present: Drs. Fisher; Walter T. Gunn, St. Louis; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Howard J. McAlhany, Springfield; E. A. Stricker, St. James; W. D. English, Cardwell; David N. Kerr, St. Louis; Doyle C. McCraw, Bolivar; Max S. Franklin, St. Louis; John I. Matthews, Jefferson City; Hector W. Benoit, Kansas City; Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; Arthur W. Neilson, St. Louis; William D. Mayer, Columbia; Kenneth C. Hollweg, Kansas City; William C. Allen, Columbia; Messrs. John W. Noble, Kennett; Arthur W. Seeds, Chicago; Hollister S. Smith, St. Louis; Gary L. Schnedler, Springfield; Allen D. Smith, Kansas City; T. R. O'Brien, and Lemoine Skinner, Jr., St. Louis; Tom P. Fox, Don Brummall, Bob Carroll and Ray McIntyre, Jefferson City.

The Chairman called the meeting to order to discuss the Long Range Planning Agenda which was formulated by the Planning Committee of the Council at a special meeting held on May 26, 1968. The minutes of the Committee meeting are as follows:

> David N. Kerr, M.D., St. Louis, called the meeting to order. Those present were Drs. Kerr; Hector Benoit, Jr., Kansas City; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; Gerald L. Miller, Kansas City. Staff: Lemoine Skinner, St. Louis; Ray McIntyre, Don Brummall, Tom Fox and Bob Carroll, Jefferson City.
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> The meeting was held for the purpose of preparing a planning agenda concerning future activities and direction of the Missouri State Medical Association for presentation to the Council. Forthright discussion was held concerning problems and challenges facing the Missouri State Medical Association and the entire medical profession. After the discussion, an agenda was prepared and it will be presented to the Council at a special meeting to be held on Sept. 6, 1968 at the Howard Johnson Motel in Springfield before the regular meeting of the Council on Sept. 7, 8, 1968. Copies of the following agenda and a cover letter are to be sent to all members of the Council as well as to the Chairman of the Constitution and By-Laws Committee for study between now and the September 6 special meeting.

Proposed Agenda

I. Health care costs and financing
  A. Doctors costs and charges
  B. Health care facilities: Costs, charges, utilization
  C. Drugs—costs and charges
  D. Third party carriers
    1. Blues
    2. Private
    3. Governmental

II. Physician Relations
  A. Discipline
  B. Quality Control
  C. Delivery of Service
  D. Service of organized medicine to members
  E. Continuing medical education programs
  F. Hospital Management—physician relationships

III. Health Manpower—Physician and Paramedical
  A. Undergraduate recruitment
  B. Expansion of Health Education Facilities
  C. Retention and Distribution in Missouri
  D. Utilization of available health care facilities and personnel
    1. Emergency medical care
    2. 40-Hour week's effects

IV. Public Relations
  A. Educating the public concerning health
  B. Liaison with voluntary and governmental health agencies
  C. Use of communications media
  D. Service programs—state and local
  E. Liaison with other professional and consumer groups

V. Relations with government
  A. Legislative
  B. Role of organized medicine in governmental health planning—Administrative
    1. Regional Medical Program
    2. Office of Economic Opportunity
    3. Medicare and Medicaid
    4. Comprehensive Health Planning
  C. Review of Missouri's Medical Practice Act

VI. Review of entire structure of MSMA
  A. Council, House of Delegates, Committees
  B. Staff
  C. Budget

After the above minutes were read, Dr. Fisher called upon President Kerr to preside and open the discussion. Dr. Kerr explained that the Agenda consisted of six main items with a number of subheadings. He noted that all of the problems could not be solved now, but the purpose of the idea of long range planning is to consider these problems and make suggestions that can be taken under consideration for the future. He stated that MSMA's biggest problems at the present time are in relation to health legislation and programs, what can be done to interest more Missouri students in entering medical schools and how to get them to remain in the state of Missouri to practice.

Mr. McIntyre stated that one item of immediate importance is under Item V-C—Review of Missouri's Medical Practice Act. He stated that one pertinent factor from the long range standpoint is working together with the Missouri Osteopathic Association on mutual problems. Mr. McIntyre stated that a resolution which was passed at the 1968 MSMA Annual Session proposed a liaison committee with the Missouri Osteopathic Association to

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study the possibilities of osteopathic residents and interns being admitted to medical hospitals in the State of Missouri for training. He said that the Osteopathic Association is considering this resolution and also has proposed additional items for joint discussion. One item embraces the subject of President Johnson's Manpower Commission Report, one section of which concerns the possibility of requiring doctors to participate in continuing medical education courses and training programs or requiring periodic examination for recertification of their licenses.

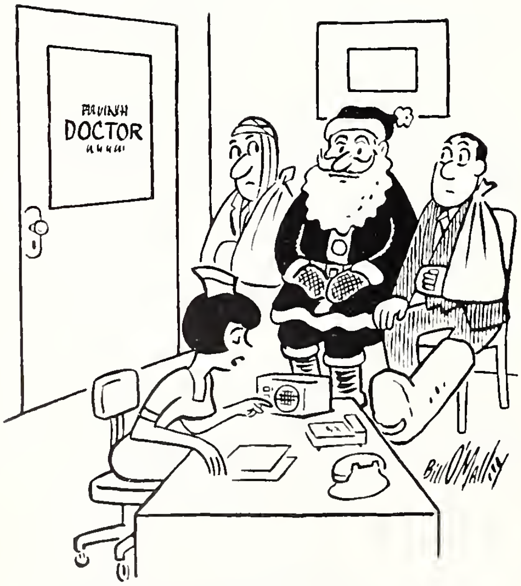
Mr. McIntyre also mentioned that chiropractic legislation probably will be introduced again in the 1969 Missouri Legislative Session. He stated that it also is possible that numerous paramedical groups will seek licensure and, while this concerns state legislation, there also will be Federal legislation to consider.

Dr. Kerr stated that MSMA needs to work with the Osteopathic Association to develop programs to help solve our rural medical problems and to promote the "umbrella plan" under the State Board of Registration for the Healing Arts for licensure of paramedical groups. He then asked for suggestions from the Councilors and AMA Delegates regarding the items contained in the Long Range Planning Agenda.

Dr. Gunn reported on how the Missouri Academy of General Practice operates regarding required postgraduate study credits over a three year period in order to retain a membership and suggested that this plan might be considered for other medical organizations.

Dr. Miller stated that action of the Council in May directed the Long Range Planning Committee to meet prior to this meeting of the Council to make recommendations for presentation to the Council. He said that additions and deletions then could be made and Council action taken toward implementation of any long range program as approved.

Dr. Kerr stated that the Council needs to formulate a plan for considering the proposals of the Long Range Planning Committee, perhaps by utilizing new committees or by referring specific items to existing MSMA committees.



"Yes, Doctor. That's the name he gave."

Dr. Neilson said that this is a good program, but that some of the problems will be very difficult to solve, such as (1) the Public Relations Program (No. IV on agenda), which should be implemented in a better way than in the past, (2) Medical Manpower, which needs immediate attention and for which legislation probably will be needed immediately to produce more medical schools and (3) Postgraduate Training of Physicians. He cited the importance of interesting physicians in teaching programs in local hospitals and suggested the possibility of the State Association promoting more postgraduate programs. In regard to Health Care Costs under Item IV (Relations with Government), he said that the AMA will be active in this field and asked Mr. Seeds to comment. Mr. Seeds suggested that if the MSMA begins with problems of postgraduate education and public relations, the other items will fall in line.

Dr. McAlhany suggested the following three items which he thought were important: (1) Relationship with the government, (2) relationship with hospitals and (3) relationship with the public. He suggested that MSMA work with government on health programs. He also stated that hospitals are entering more and more into the practice of medicine and MSMA should develop a formula for working with the hospitals. He stated that some people feel that many doctors are too interested in making money and not interested enough in public welfare.

Dr. Kerr mentioned the need to promote greater interest on the part of medical societies and individual members in all of our problems. He said MSMA should interest the younger and newer members and encourage their active participation on committees. He stated that the Medical Economics Contract Committee is considering cost charges and working with third party carriers. In regard to Public Relations, he said that MSMA has a public relations committee, but needs new approaches in that regard. He said MSMA needs more new and younger men to be active in the medical organization's programs.

Dr. Benoit stated that the idea behind the plan is for the Council to start looking into some of the problems of the future and noted that the Council and Executive staff of the Association are now involved with current problems. He said there has been no basic long range thinking and there are various areas of activities which have been neglected and need attention, such as what the Medical Association can do for its members. He said that Item No. VI should become Item No. I and questioned whether or not the present staff, both in number and talent, can cope with these problems. He stated that basically what the Council is considering is an attempt to digest the situation and that, perhaps, some items should be implemented before others. He raised the question of the best way for the Council to recommend to the House that it implement the most important items on the agenda immediately and suggested that subcommittees of regular committees might be helpful.

Dr. Fisher stated that detailed discussion at the meeting of May 26, unfortunately, could not be included in this report. He said MSMA needs an active committee to interest interns and residents in staying in Missouri and not leaving the state. He added that MSMA needs a concrete plan for implementing these many ideas of the Planning Committee.

Mr. Skinner stated that there is no way in which committees and individually-oriented physicians can implement a program. He said there is no big corporation in the world whose business is conducted by its stockholders. He said medicine is big business, and MSMA must take a completely new look at what this organization is supposed to do. He stated that it is his belief that it is time for MSMA to be less like a legislative body and become more like a corporation. He said the key is No. VI, what kind of structure and organization does MSMA need to represent the profession under present conditions and future indications and that this should be the first business to be considered under this planning committee's recommendations.

Dr. Miller stated that he interpreted the effort of the Planning Committee to be anticipatory. He said the comments from those present would suggest that the proposals contained in the agenda of six items of immediate and future concern to Missouri medicine should be accepted. Secondly, in the interest of expedience, he proposed that the six major items be assigned to appropriate existing committees and that a member of the Council be assigned to work with each committee. He suggested that we start with No. VI, attack this first and request all committees to bring back fruitful recommendations.

Dr. Cope said he agreed with Dr. Benoit. He stated that MSMA was organized as a scientific and educational organization to furnish scientific knowledge to the membership and promote lay health education. He pointed out that, for many years, this was all that was expected of the Association. He stated that a few years ago, we stood up for our own rights and what we thought was right, but that, as an organization, MSMA now needs to develop ways to get (1) prompt action, (2) more funds, which it does not now have and (3) discipline within the membership.

Dr. Peterson recommended that whenever we start to reorganize MSMA, we should look at what is right and not what is wrong with the organization. He stated that our Missouri organization is as good as any other in the nation, including the larger organizations. He said that he could see no need to change the organization and did not believe changing it *per se* will make any difference in what the doctors will do. He said that MSMA is a potent organization that helped to change the way the Welfare Department conducts its business and, if handled correctly, it can be as potent as it wants to be.

Dr. Peterson suggested that the Council assign this long range program to someone who can take the time to do it and, if necessary, hire persons from our organization and pay them and their expenses on a per diem basis to determine what is wrong and what is right. He said that members and nonmembers should be included. He added that this organization should start getting together with special groups of its members, the Missouri Society of Internal Medicine and all other so-called "splinter" groups and bring them back to where they belong. He said that changing our organizational format would not change anything.

Dr. English stated that MSMA members must work together and develop more cooperation in these important matters.

Dr. Neilson said he agreed with Dr. Benoit that we should start with No. VI. He suggested that the Council give the committee which was formed to do this task an opportunity to do its job. He said the Council should approve these recommendations and let the committee go a little further in its study and adopt those items which are useful and reject those not useful without a large expenditure. He said the job can be done by the physician-members of the committee and suggested that they start working on the subject of physician relationships within our own society and our public relations.

Dr. Benoit stated that he thought the word "change" had been misinterpreted. He said he did not think the structure should be changed, but that certain things should be handled differently. He said that the MSMA Constitution does not need to be changed and he did not agree that the suggestions from Dr. Miller be implemented. He suggested that the Council give the Planning Committee the authority to go ahead. Since No. VI needs immediate attention, he recommended that the Planning Committee should return to this specific project. He agreed with Dr. Peterson's statements.

Dr. Benoit added that he was opposed to the idea of the Association spending large amounts of money to pay experts to tell MSMA what is wrong with the organization. He suggested that the plan be sent back to the Planning Committee.

Dr. Matthews moved that the Council approve the report of the Planning Committee, commend the Committee members for their initial efforts and suggest that recommendations be brought back to the Council regarding how to proceed, what to approach first and ways and means for carrying these suggestions forward.

After discussion, duly seconded by Dr. Stricker, the motion carried.

Dr. Miller suggested that parts of this agenda may well be included on the agenda for the January Officers Conference. He also suggested that the Planning Committee have one or two meetings prior to the December meeting of the Council.

Dr. Hollweg, chairman of the Constitution and By-Laws Committee, was asked for his opinions. He stated that he could see no need for major change in the Constitution and By-Laws at the moment, that he thought we still have the knowledge within our own State Association to solve these problems and that the whole situation must be studied very carefully.

Meeting of Sept. 7, 8, 1968

Joseph L. Fisher, M.D., St. Joseph, Chairman, called the meeting to order. The following persons were present: Drs. Fisher; Lysle M. Bach, Hannibal; Walter T. Gunn, St. Louis; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Howard J. McAlhany, Springfield; E. A. Stricker, St. James; W. D. English, Cardwell; David N. Kerr, St. Louis; Doyle C. McCraw, Bolivar; John I. Matthews, Jefferson City; Max S. Franklin, St. Louis; Hector W. Benoit, Kansas City; Stanley S. Peterson, Springfield; J. L. Washburn, Versailles; Arthur W. Neilson, St. Louis; Robert W. Kelley, St. Louis; William D. Mayer, Columbia; Vernon E. Wilson, Columbia; Paul Whitener, St. Louis; Kenneth C. Hollweg, Kansas City; Blaine Z. Hibbard, Kansas City; R. A. Stufflebam, Springfield; William C. Allen, Columbia; Byron M. Stuart, Boonville; Ben Koon, Bolivar. Messrs. John W. Noble, Kennett; Arthur W. Seeds, Chicago; Hollister Smith, St. Louis; Gary L. Schnedler, Springfield; Allen D. Smith, Kansas City; Lemoine Skinner, Jr., Tom O'Brien, St. Louis; Tom P. Fox, Don Brummall, Bob Carroll and Ray McIntyre, Jefferson City.

Dr. Fisher called the meeting to order and requested approval of the Council Minutes of May 11, 12, which had been distributed in the usual manner.

On motion of Dr. McCraw, duly seconded, the minutes of the May 11, 12, 1968 Council meeting were approved.

Dr. Fisher then requested approval of the minutes of the Special Council meeting held in Kansas City on July 28, 1968. He explained that the Special meeting was held primarily to get the views and position of the Council regarding the proposal submitted by the Research Center, School of Business and Public Administration of the University of Missouri, which was submitted to the Missouri Regional Medical Program for funding of a study of health care costs in Missouri.

After discussion and on motion of Dr. Kerr, duly seconded, it was agreed that these minutes be approved, but that a synopsis of the minutes be published in Missouri Medicine instead of the complete minutes which consist mostly of discussion.

Dr. Franklin reviewed a detailed financial report as of Aug. 31, 1968, showing total receipts and disbursements for the period January 1 through August 31.

Dr. Franklin also stated that the proposals which will be presented to the next Budget Committee meeting in December probably will bring up the question of an increase in dues. He stated that in checking other state associations, Missouri's dues are among the lowest and, in view of proposed increased activities, an increase in dues may be necessary.

After discussion, on motion of Dr. Gunn, duly seconded, the Treasurer's Report was approved.

Dr. Fisher appointed the following members to the Budget Committee for 1969: Drs. Max S. Franklin, St. Louis, Chairman; David N. Kerr, St. Louis; Doyle C. McCraw, Bolivar; Joseph L. Fisher, St. Joseph; Gerald L. Miller, Kansas City; and Lysle M. Bach, Hannibal. It also was decided that the Budget Committee would meet on Dec. 13, 1968, prior to the regular meeting of the Council.

On motion of Dr. Cope, seconded by Dr. Kerr, it was agreed that the Budget Committee take into consideration the long range planning proposal in deciding on any necessary increase in dues.

Dr. Cope presented a copy of Form SB-811 received from the St. Louis Blue Cross which requests certain information on patients which, in his opinion, is considered privileged. This particular form requests information regarding history and physical examinations, consultations, operative notes, discharge summary, progress notes and, also, (1) physician's orders and (2) Utilization Review Reports.

Discussion followed regarding not furnishing this information, with the exception of specific unusual cases. It was suggested that a letter be written to the St. Louis Blue Cross to find out why such information is being sought and of what their present contract consists.

A letter was prepared which was reviewed by the Council. On motion of Dr. Benoit, it was agreed to table this item until Sunday so that the letter could be changed somewhat and further considered by the Council. Motion was duly seconded and carried.

Mr. McIntyre reported on a number of meetings which have been set for September as follows: September 15, Committee on Nursing and Paramedical Personnel; September 22, Medical Economics Contract Committee with Dr. Paul Leslie and Proctor Carter as guests; September 22, Infact and Child Care Committee, which will discuss the recommendations that came from the AMA in regard to the Infant Mortality and Perinatal study; September 29, joint meeting of Trauma and Disaster Medical Care and National Defense; October 3, meeting of MSMA Comprehensive Health Planning Committee, with Dr. Potter of St. Joseph, Chairman. Dr. Potter was appointed by the Governor to his Advisory Committee on Comprehensive Health Planning. The Governor's Advisory Committee will meet on October 3. Dr. Potter then will report back to the MSMA Committee. Mr. McIntyre stated that apparently some changes are planned in the basic health planning philosophy under the Missouri Program.

Other meetings planned are a meeting of the Missouri Health Council on September 24 and a meeting at Missouri University on Medical Manpower on September 25. He also stated that on October 2 and 3, the AMA will have another important conference on Health Quackery at the Drake Hotel in Chicago. Part of the meeting on October 3 will be a closed session. He said he hoped some of our MSMA members would be able to attend this particular conference and that some members of the staff would attend. He said that additional meetings include an AMA Legal Conference on October 4 for Medical Society representatives and legal consultants; October 5 and 6, Second National Conference on Medical Ethics sponsored by the AMA; October 7, 8, 9, Kansas City Southwest Clinical Conference; November 22, 23, Annual M.D. Day at the University of Missouri; March 1, 1969, a workshop on Medicine and Religion to which the chairmen of state association committees will be invited to attend. He requested permission of the

(Continued on page 1011)

ANNUAL CLINICAL CONFERENCE

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Notes of interest from Here . . . . and There

Dr. Durward G. Hall, Springfield, Congressman for the Seventh District of Missouri, is the recipient of the Missouri Academy of General Practice's annual award for leadership in the improvement of health care in Missouri. This citation is the highest award presented by the Academy and was presented to Dr. Hall at the annual banquet of the 20th Annual Scientific Assembly in St. Louis on November 16.

Dr. O. Liston, Oak Grove, has retired after 53 years of service as a practicing physician. The Oak Grove community honored Dr. and Mrs. Liston at a reception on November 3.—**Dr. R. Lee Hoffman**, who retired recently after 50 years of medical practice, was honored by the Kansas City Society of Urology at a dinner meeting recently.

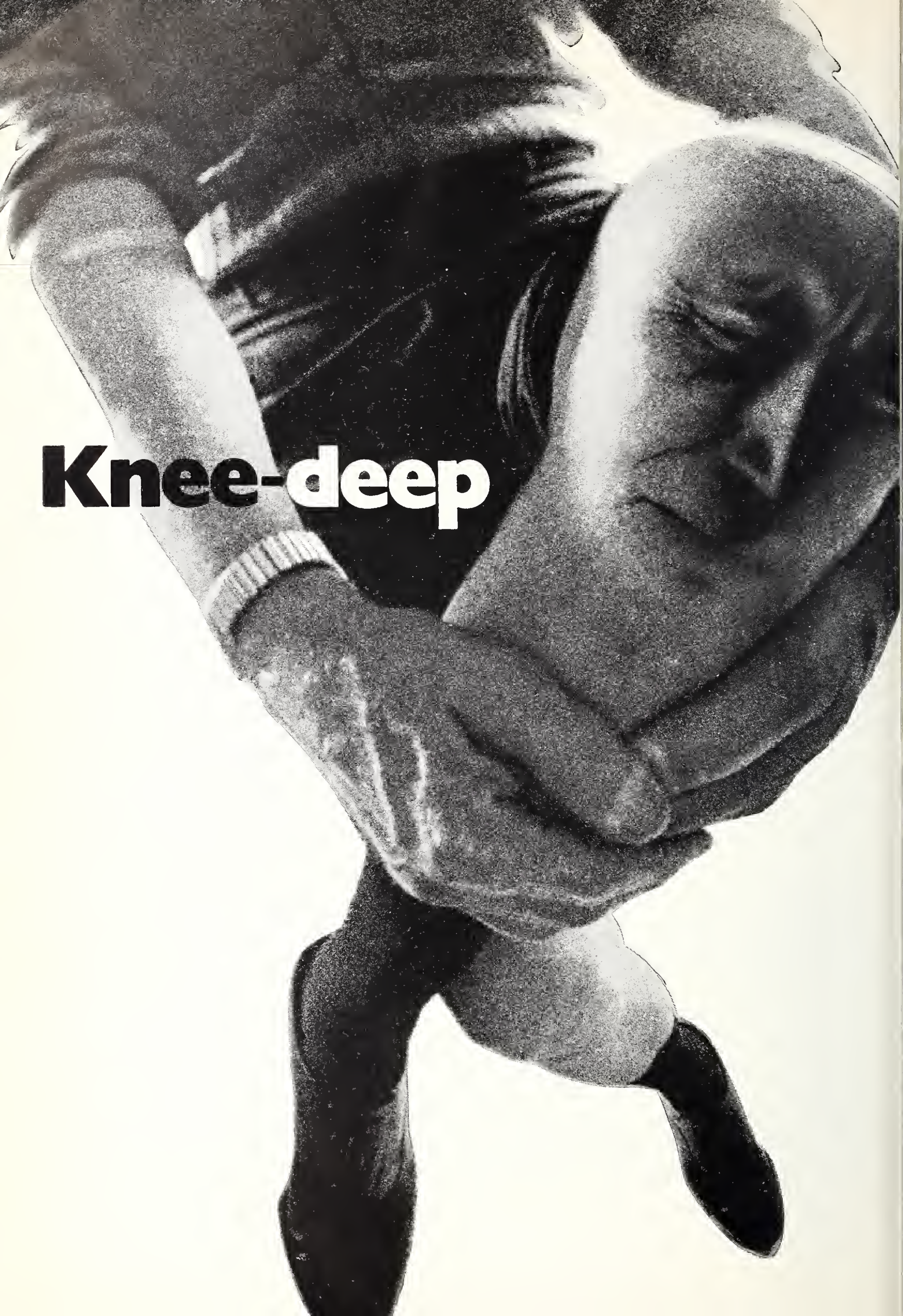
Dr. Matthias H. Backer, Jr., associate clinical professor of gynecology and obstetrics at the St. Louis University School of Medicine, has been elected president of the St. Louis University Hospitals Medical Staff. He succeeds **Dr. John J. Budd, Jr.**, assistant clinical professor of internal medicine. **Dr. John H. Gladney**, assistant clinical professor of otolarynology, was elected vice-president and **Dr. Robert H. Ramsey**, assistant clinical professor of internal medicine, was named secretary-treasurer.

Dr. W. J. Shaw, Jr., Fayette, has been elected to the Board of Directors of the Central Methodist College Alumni Association.—**Dr. Walter T. Gunn**, St. Louis, has been elected to the Board of Directors of the St. Louis University School of Medicine Alumni Association.

Dr. Albert R. Maddox, Sedalia, has been appointed to the Sedalia Park Board of Commissioners. He also was elected a member of the Board of Directors of the Sedalia Chamber of Commerce recently.

Drs. C. Alan McAfee and **Carol Williams** have been appointed as full-time chiefs of the departments of surgery and obstetrics-gynecology, respectively, at St. Luke's Hospital in St. Louis. Dr. Williams' appointment became effective on October 1 and Dr. McAfee's appointment will become effective on Jan. 1, 1969. They succeed **Dr. Carl E. Lischer**, surgeon, and **Dr. George J. L. Wulff, Jr.**, obstetrician and gynecologist, who have headed the two departments on a part-time basis and who now will devote their full time to their private practices. Also, appointed by St. Luke's Board of Directors is **Dr. Francis G. Duffy**, chief of anesthesiology, to succeed the late **E. O. Kraft**, M.D.

Knee-deep



ELLIS FISCHEL STATE CANCER HOSPITAL
and
CANCER RESEARCH CENTER PROFESSIONAL PROGRAM

Cancer Research Building Auditorium
Saturday, Dec. 14, 1968

8:30 AM Registration (no fee)

9:00 AM *Welcome*—Carlos M. Perez-Mesa, M.D., Program Chairman, Chief of Pathology, EFSCH.

PART I

9:05- 9:20 AM *Epidemiology of Cancer in Situ of Cervix,* Richard E. Johnson, M.D., Clinical Associate Professor of Pathology, University of Missouri School of Medicine and Consultant in Pathology, EFSCH.

9:20-10:05 AM *Cytological Characterization of Carcinoma in Situ of Uterine Cervix,* John K. Frost, M.D., Professor of Pathology and Cytopathology, Johns Hopkins University School of Medicine.

10:05-10:50 AM *Histopathological Characterization of Carcinoma in Situ of Uterine Cervix,* Frederick T. Kraus, M.D., Assistant Professor of Pathology, Washington University School of Medicine.

10:50 AM Coffee

11:10-11:50 AM *Treatment of Carcinoma in Situ of the Uterine Cervix,* Denis Cavanagh, M.D., Professor and Chairman, Department of Gynecology and Obstetrics, St. Louis University School of Medicine.

11:50 AM Panel Discussion and Questions—George J. Fuchs, M.D., Moderator, Clinical Assistant Professor of Gynecology and Obstetrics, University of Missouri School of Medicine; Richard E. Johnson, M.D.; John K. Frost, M.D.; Denis Cavanagh, M.D.; Frederick T. Kraus, M.D.; and Luis Delclos, M.D.

12:20- 1:45 PM Luncheon

PART II

1:45- 2:00 PM Introduction: *General Consideration of Soft Tissue Tumors,* Lester Garfinkel, M.D., Assistant Professor of Medicine, University of Missouri School of Medicine and Associate Internist, EFSCH.

2:00- 2:45 PM *Pathological Features of Soft Tissue Tumors,* John W. Pickren, M.D., Clinical Professor of Pathology, State University of New York.

2:45- 3:30 PM *Surgical Management of Soft Tissue Tumors,* Harvey R. Butcher, Jr., M.D., Professor of Surgery, Washington University School of Medicine.

3:30- 4:15 PM *Role of Radiotherapy in the Management of Soft Tissue Tumors,* Luis Delclos, M.D., Associate Professor of Radiology, University of Texas.

4:15 PM Coffee

4:30- 5:00 PM Panel Discussion: E. J. Schewe, Jr., M.D., Moderator, Clinical Associate Professor of Surgery, University of Missouri School of Medicine and Consultant, EFSCH; John W. Pickren, M.D.; Harvey R. Butcher, Jr., M.D.; and Luis Delclos, M.D.

5:00 PM Alumni Annual Reunion

6:00 PM Cocktail Party

This Professional Program is open to all members of the medical profession and students of medicine. For further information, address correspondence to Carlos M. Perez-Mesa, M.D., Chairman, Fall Professional Program, Ellis Fischel State Cancer Hospital, Columbia, Mo. 65101.

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Indications: Streptococcus, pneumococcus, and gonococcus infections; infections caused by sensitive strains of staphylococci; prophylaxis of streptococcus infections in patients with a history of rheumatic fever; and prevention of bacterial endocarditis after tonsillectomy and tooth extraction in patients with a history of rheumatic fever or congenital heart disease.

Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

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See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

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Volume 65, Number 12—December, 1968

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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JOHN S. SPRATT, JR., M.D., *Columbia*

Ellis Fischel State Cancer Hospital and Cancer Research Center

A Progress Report

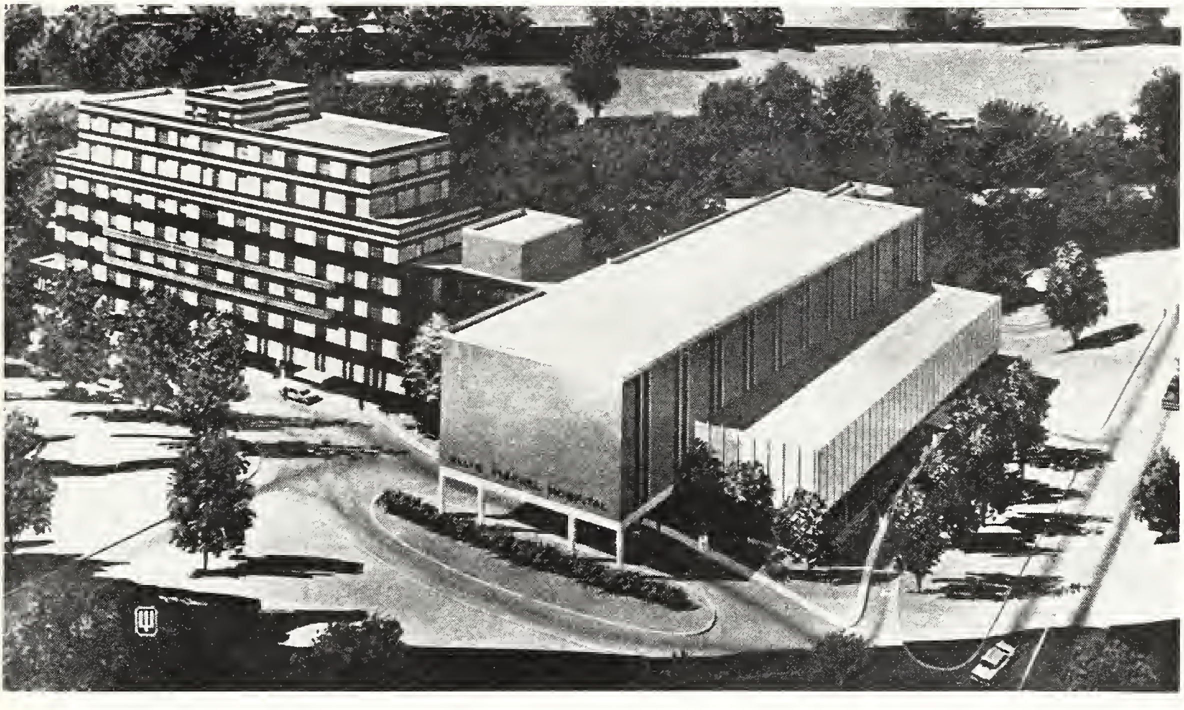

Fig. 1 The architect's drawing for the new wing now being planned for the Ellis Fischel State Cancer Hospital is shown at the right. New, adequate parking facilities adjacent to the wing are not pictured.

The 1967-1968 Legislature appropriated $120,000 in planning money for the long needed enlargement and remodelling of the Ellis Fischel State Cancer Hospital. No major capital improvement program has been implemented in the institution since 1940, and a number of accumulative needs have developed in the older facilities. At the present time, the institution continues to operate at nearly 100% occupancy with large outpatient clinic loads. No space exists in

Plans for the first enlargement and remodelling of Ellis Fischel State Cancer Hospital since 1940, and the present Cancer Research Center are discussed in this special report. Dr. Spratt is Chief of Staff at EFSCH and Director of the Research Center.

the present physical plant for the addition of new patient services required for the comprehensive care of the cancer patient that have evolved since completion of the hospital in 1940. In coordination with the architectural firm of Wedemeyer-Cernik-Corrubia in St. Louis, the Missouri Division of Health and John D. Paulus, Jr., Chief of Planning and Construction, we completed 75% of the enlargement and remodelling plans on May 15, 1968. The architects rendition of the wing is shown in Fig. 1. Not shown in this figure are plans for adequate parking facilities adjacent to this wing.

At the meeting of the Missouri State Cancer Commission on Sept. 27, 1968, the plans were approved at their present state of completion and the staff was authorized to request the capital improvements appropriation to be based upon the architect's final estimate of construction costs. Present members of the Cancer Commission are J. G. Probstein, M.D., of St. Louis, Chairman; Charles E. Lockhart, M.D., Springfield; Carl J. Marienfeld, M.D., Columbia; and W. C. Whitlow, Fulton. Also present at the Cancer Commission meeting were Lynn M. Garner, M.D., Acting Director of the Division of Health of Missouri, and J. P. Russell, M.D., Director, Section of Hospital and Technical Services of the Division of Health of Missouri.

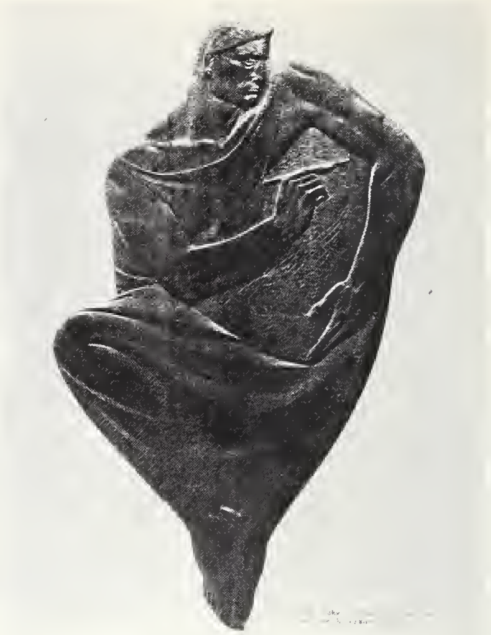

Fig. 2 As a memorial to the late Dr. John J. Modlin of Columbia, this bas-relief of St. Luke carved in Missouri walnut will be placed in the entranceway of the new wing of the Cancer Hospital. The sculptor is William Severson of St. Louis.

The Cancer Commission also heard reports on the recently implemented institution-wide in-service training programs and reviewed and approved other current aspects of the institution's operations.

(Continued on page 968)

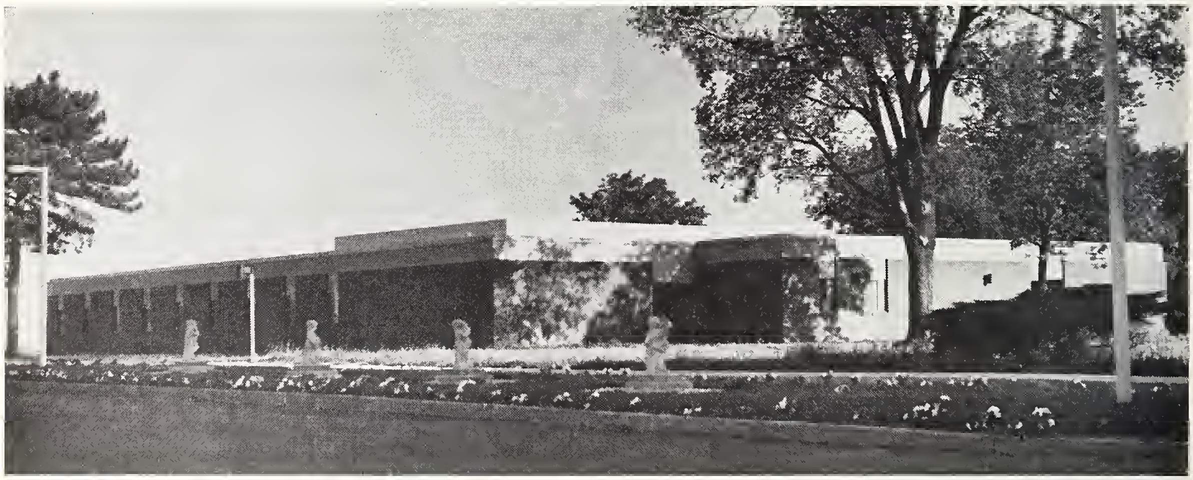

Fig. 3 The Research and Development Building No. 1 of the Cancer Research Center was dedicated on April 6. It was financed by private contributions from Missouri citizens.

JAMES N. HUESER, M.D., MARTIN E. STRAND *and*
REGINALD P. PUGH, M.D., *Columbia*

Topical 5-Fluorouracil in the Treatment of Actinic Keratoses

Case Reports

THE RURAL POPULATION OF MISSOURI is at great risk in regard to developing premalignant actinic keratoses because of the amount of solar radiation to which it is exposed. It is well known that persons with sun-damaged skin and actinic keratoses are likely to develop cancers of the skin.[1]

A recent advance in the treatment of actinic keratoses and carcinoma in situ of the skin has been the utilization of topical cancer chemotherapeutic agents. Belisario[2] in Australia was one of the earlier investigators to formulate the experimental basis for treating premalignant and malignant skin conditions with topical chemotherapy. The effective use of topical 5-fluorouracil (5-FU) in this country was brought into sharper clinical focus by the studies of such groups as Dillaha, *et al* in Little Rock, Ark.[3, 4] They concluded that topically applied 5-FU could be used as an effective means of treating patients with multiple actinic keratoses of the face and neck. Numerous case reports of patients with carcinoma in situ of the skin successfully treated with topical 5-FU also have been published.[5, 6] However, the applicability of the use of topical chemotherapy for the control of invasive skin cancer continues to be a matter of dispute and under clinical investigation.

In view of the available experimental and clinical data, a group of patients at the Ellis Fischel State Cancer Hospital with pathologically proven premalignant and malignant conditions of the skin has been treated with 2% 5-FU suspended in acid mantle. Of 24 patients treated to date, 19 had severe actinic keratoses and five had carcinoma in situ of the skin. With few exceptions, the immediate results have been very dramatic and initially beneficial to the treated patients.

Two representative cases follow.

CASE REPORTS

Case # 1. A 66-year-old, fair-skinned, blue-eyed farmer has been followed at Ellis Fischel since 1964 for multiple actinic keratoses. Late in 1964, an epidermoid carcinoma was removed from the skin of the lower lip. In 1965, an epidermoid carcinoma was removed from the skin of the left temple.

Because of severe, multiple actinic keratoses to the left side of his face (Fig. 1-A), he was treated in September, 1967 with 2% 5-FU. After four weeks of twice daily applications, the patient developed a severe inflammatory reaction (Fig. 1-B). Within a month, however, the erythema had completely cleared and his skin was smooth and free of keratoses except for one area on the left temple which remained raised and crusted. This area was re-treated but never completely disappeared. An excisional biopsy of the persistent lesion was performed, and no cancer was seen. Only hyperkeratosis with superimposed inflammation was present. The right side of the face was then treated twice a day for three weeks with topical 5-FU. Again, the expected inflammatory reaction ensued, but it was less severe

A description of the experience in treating a group of patients with severe actinic keratoses utilizing topical chemotherapy with 2% topical 5-flourouracil as the chemotherapeutic agent. The authors discuss and illustrate the expected results and toxicity. **Dr. Hueser is Assistant Scientist at the Cancer Research Center, Mr. Strand is a Senior Medical Student at the University of Missouri School of Medicine and Dr. Pugh is Chief of the Internal Medicine Department at Ellis Fischel State Cancer Hospital.** **This study was supported in part by USPHS Grant CA-08023 to the Cancer Research Center.**

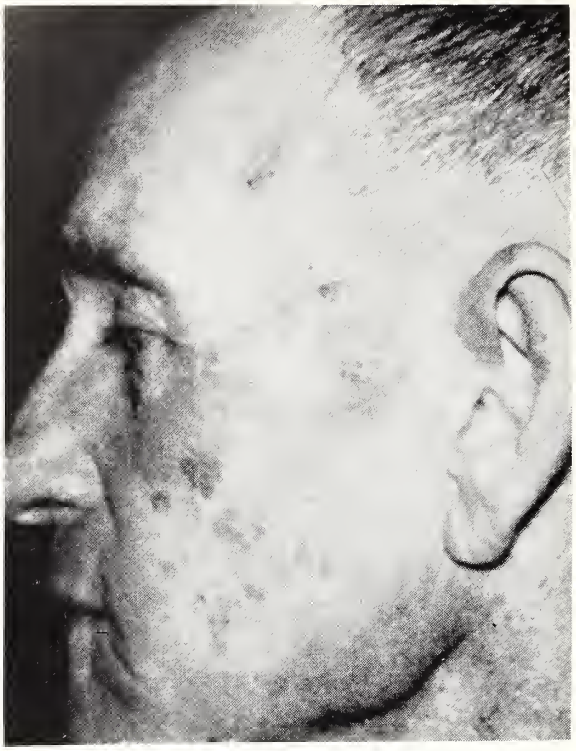

Fig. 1-A Patient before treatment (Case # 1).

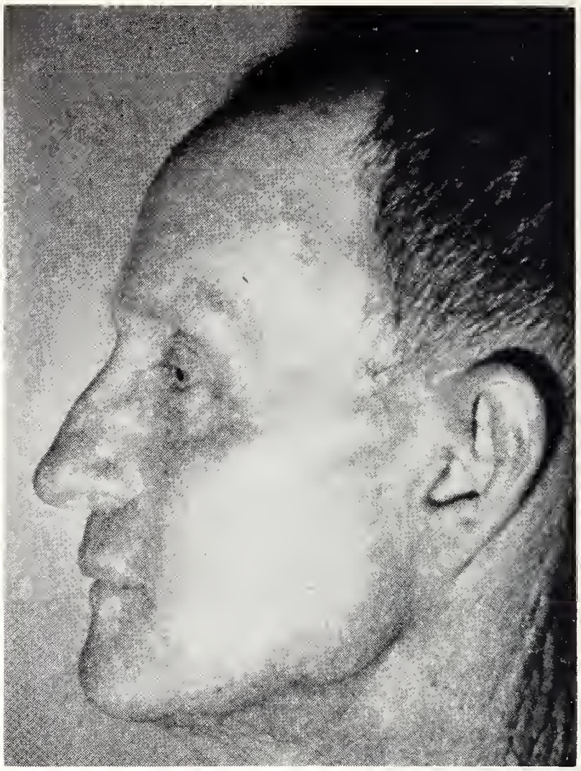

Fig. 1-C Patient one year after treatment (Case # 1).

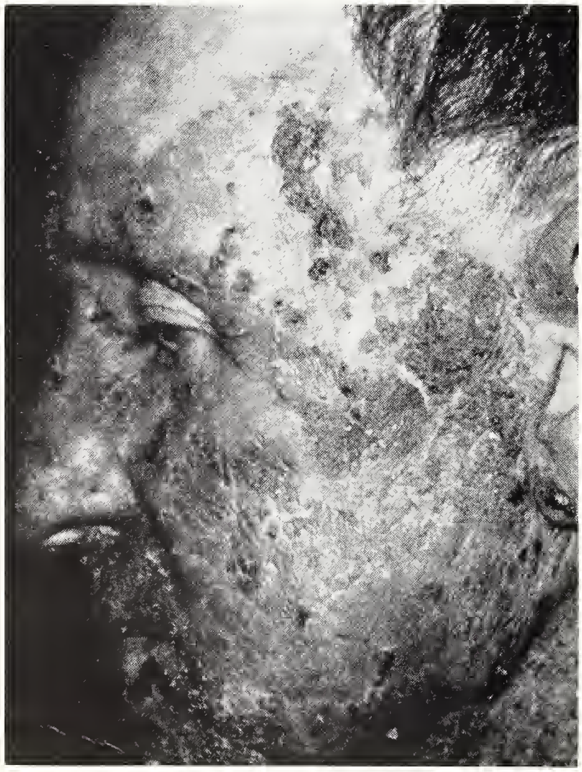

Fig. 1-B Patient immediately after cessation of treatment (Case # 1).

than that on the left. At follow-up one year later, the patient was very pleased with the results (Fig. 1-C). His skin was smooth, soft and free of any new keratoses. There was one small persistent keratosis on the right malar region which is presently being re-treated.

***Case* # 2.** The patient is a 65-year-old, fair-skinned, blue-eyed farmer who was first seen at Ellis Fischel in 1964 for excision of an epidermoid carcinoma of the skin of the left cheek. He returned in 1964 for excision of an epidermoid carcinoma from the right cheek.

Twice daily applications of topical 5-FU to the left side of his face were begun in November, 1967 because of severe facial actinic keratoses (Fig. 2-A). He returned after two weeks with only mild erythema of the treated area. Therefore, treatment was continued for another 14 days and a moderate inflammatory response ensued (Fig. 2-B). Two months later, the left side of his face was smooth and soft and free of visible keratoses. The right side of his face was then treated twice daily for three weeks with an equally good therapeutic response. The patient returned for a two-month follow-up visit. His face was free from keratoses except for a small rough, raised area on the tip of the nose. He retreated the area for two weeks, but the lesion persisted. At one year follow-up evaluation, his skin remained smooth and soft (Fig. 2-C), but the lesion

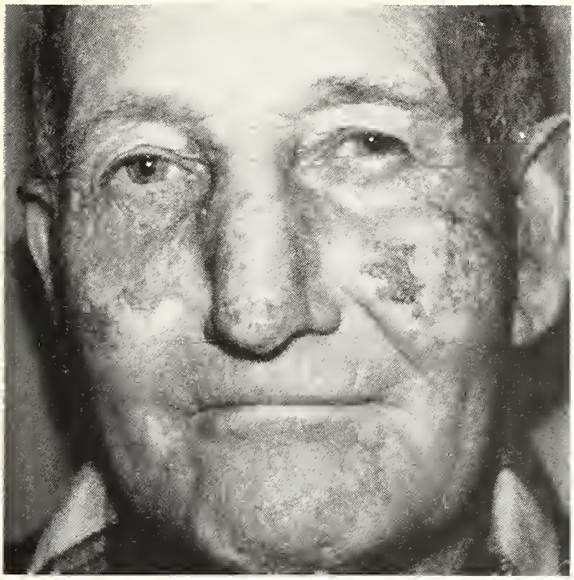

Fig. 2-A Patient before treatment (Case # 2).

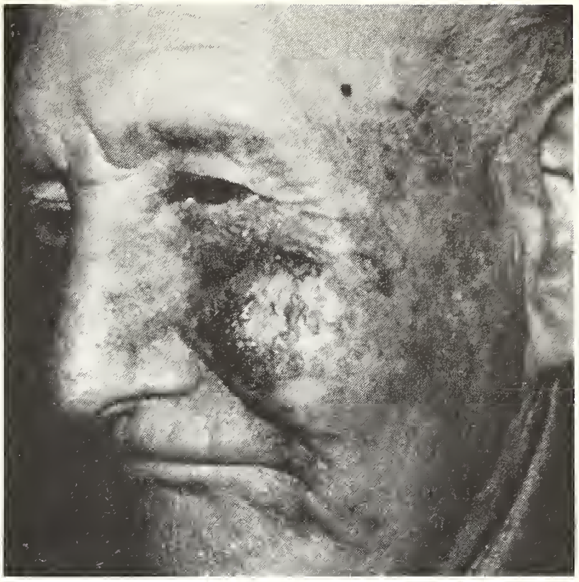

Fig. 2-B Patient immediately after treatment (Case # 2).

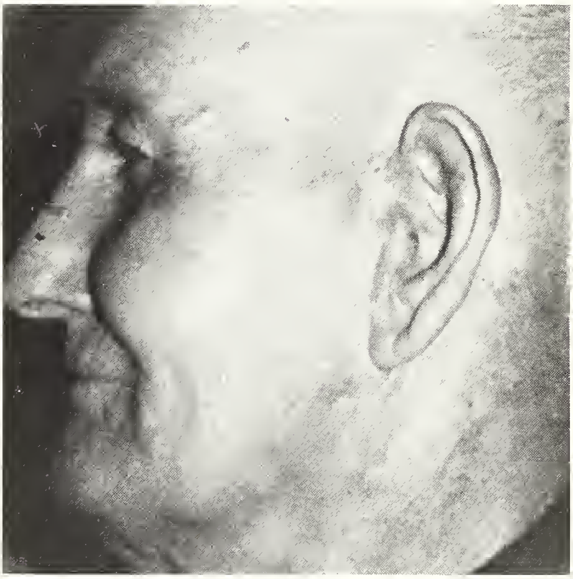

Fig. 2-C Patient one year after treatment (Case # 2).

on the tip of the nose persisted. This lesion is presently being re-treated and will be biopsied if it fails to resolve completely.

Discussion

The treatment of actinic keratoses has been confined to the use of protective clothing, sun screens, softening ointments and watchful waiting with biopsy of lesions suspicious for malignancy. Protective clothing and sun screens have not been very effective in preventing the progression of premalignant and malignant skin lesions. Cancer of the skin has largely been managed by surgical excision and/or radiation therapy.

Recent observations of the use of topical chemotherapy in the treatment of premalignant and malignant skin conditions have established topical 5-FU as an effective method of treating actinic keratoses. Dillaha, *et al*[5] have summarized their studies on the use of various concentrations of topical 5-FU and have concluded that clearing of the keratoses of face and neck is complete with use of 2.5% 5-FU, but that recurrence is common. In their experience, the use of 5% 5-FU ointment resulted in clearing of actinic keratoses and fewer relapses as compared to 2.5% 5-FU ointment. The use of 2% 5-FU ointment in this study was necessitated by having no source of concentrated 5-FU readily available. Retreatment occasionally has been necessary but has been accomplished with relative ease. The general use of topical chemotherapy in the treatment of skin cancer cannot be recommended because the long term recurrence rates are unknown[6, 7] even though excellent results have been obtained in treating in situ carcinoma of the skin with topical 5-FU.

The major side effect of topical 5-FU is an inflammatory response which may be used as an end point of active treatment. The drug has a selective action on actinic keratoses resulting in their disappearance.[4] Radioactive tracer studies using C^{14} 5-FU have demonstrated that less than 6% of topically applied 5-FU is absorbed.[5] This is an amount much smaller than the dose that would cause systemic toxicity. Serial hematological and liver function studies have not demonstrated any evidence of 5-FU toxicity.

In this series, application of a 2% 5-FU ointment resulted in disappearance of the majority of actinic keratoses, although one lesion persisted after treatment in each of the two cases presented. The appearance of new lesions after treatment with 2% ointment has not been frequent. When recurrences did occur, retreatment usually resulted in the disappearance of the new lesions. Subsequent courses of treatment were tolerated much better by the patient, since topical 5-FU has a predilection for abnormal skin and the more normal skin is spared the severe inflammatory response.

Actinic keratoses on the face and neck are much more sensitive to 5-FU than those occurring on the hands and arms. Application of 2% topical 5-FU had to be continued for two to three months on the hands and arms before an inflammatory response ensued. Even then, the disappearance of keratoses was not complete. When more concentrated 5-FU topical preparations become available, perhaps improved clinical results will be observed.

Briefly, it has been our procedure to treat severe actinic keratoses with 2% 5-FU until an inflammatory reaction ensued, to wait until all evidence of inflammation subsided and, if lesions persisted, to re-treat. If a lesion remained after re-treatment, surgical biopsy and pathologic examination were carried out.

When keratoses were severe, only a small area of skin was initially treated in order to spare the patient a severe inflammatory response and, possibly, secondary infection, cellulitis and facial edema. Great care should be taken to educate the patient concerning the proper application of the medication, the expected transient disfigurement and the anticipated results. Whenever possible, new patients were shown other patients or their photographs to gain their confidence in the ultimate results of treatment which would be rewarding and to educate them to report any divergence from the expected course to their physician. Obviously, patients also must be admonished to keep the topical 5-FU out of their eyes, even though their skin lesions may extend close to the conjunctival margins.

Presently, no prophylactic re-treatment program has been implemented. Instead, repeated treatment courses have been reserved for proven recurrent disease.

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Ellis Fischel State Cancer Hospital (Cont'd)

The citizens of Columbia raised $4,000 to purchase a bas-relief of St. Luke carved in Missouri walnut (Fig. 2). The sculptor is William Severson of St. Louis. The art piece, presently located in the Cancer Research Building on the hospital grounds, will be placed in the entrance way of the new wing of the Cancer Hospital. The bas-relief will be a memorial to the late Dr. John J. Modlin of Columbia.

Research and development building Number 1 of the Cancer Research Center (Fig. 3) was dedicated on April 6, 1968. The 14,775 square foot building, paid for entirely by private contributions, houses the biomathematics, applied medical engineering and biochemistry sections of the Cancer Research Center. The combined library and teaching facilities of the Cancer Hospital and Cancer Research Center are located in the new building. The Cancer Research Center continues to operate a nine-bed research ward on the fifth floor of the Cancer Hospital and a portion of the biochemistry section on the eighth floor.

At present much of the CRC research is directed toward the development of a better understanding of the natural history of human cancer using the extensive records of the EFSCH (Clinicians and biomathematics department) toward improving the operational efficiency and economy of cancer patient care (applied medical engineering) and in particulate and matrix supported enzymology and microcalorimetry (biochemistry).

JOHN L. KISER, M.D., JOHN S. SPRATT, JR., M.D. ***and***
CHARLES A. JOHNSON, M.D., ***Columbia***

Colon Perforations Occurring During Sigmoidoscopic Examinations and Barium Enemas

A Review

In 1922, the London correspondent for *The Journal of the American Medical Association* wrote:

> "An inquest has been held on a man who contracted dysentery while serving at Saloniki during the war and who was admitted to the hospital in Leicester for treatment. The sigmoidoscope was used three times for examining the intestine. On the third occasion, it seemed to pass higher up than on the previous occasions, but nothing further was noticed. Next day, acute abdominal symptoms developed and laparotomy was performed. A perforation of the intestine was found and dealt with, but death ensued from peritonitis. The verdict returned by the coroner was death from general peritonitis following perforation of the lower intestine, caused by the use of an instrument by a competent person for the necessary examination for dysentery, and that death was due to misadventure."

The purpose of this paper is to present the misadventures resulting from barium enema and sigmoidoscopic examinations in patients treated at the Ellis Fischel State Cancer Hospital (EFSCH) from 1962 through 1967. A review of the literature is presented and conclusions regarding management are drawn from the available data.

A comprehensive review of the literature combined with a report of the experience with sigmoidoscopic examinations and barium enemata at Ellis Fischel State Cancer Hospital from 1962 through 1967. The complication of perforation and its management are emphasized.

Dr. Kiser, who is a former Resident in Surgery at EFSCH and Barnes Hospital, St. Louis, is now in the private practice of medicine in Wichita, Kans. Dr. Spratt is Chief Surgeon, EFSCH; Director, Cancer Research Center; Professor of Surgery, University of Missouri School of Medicine; and Lecturer in Surgery, Washington University School of Medicine, St. Louis. Dr. Johnson is Assistant Resident in Surgery, Barnes Hospital, St. Louis and EFSCH.

This investigation was supported in part by USPH Grants CA-08023 and CA-09741.

Clinical Material

At the EFSCH, 7,000 proctoscopic examinations were performed between January, 1962 and December, 1967. Protoscopic study of the mucosa of the anus, rectum and lower sigmoid colon is used as a screening procedure on all new patients and on patients seen again one year or more after the last proctoscopic examination. All of these examinations were performed in a well-equipped proctosigmoidoscopic examining room after a disposable Clyserol* enema had been given and expelled. Nearly all examinations are performed by surgical residents at the second- and third-year level. Two thousand one hundred and fifty barium enemas were performed during this same period. For patients who have no symptoms of partial intestinal obstruction, the preparation consists of 30 cc castor oil the evening before the examination and saline enemas until clear on the morning of the examination.

In this interval, 353 carcinomas of the colon and rectum were diagnosed. Two hundred and thirty-nine of these (67.7%) involved the rectum and lower sigmoid. More than 300 benign polypoid tumors were removed through the sig-

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* Clyserol Laboratories, Oklahoma City, Okla.

TABLE 1

	Age	*Primary Disease*	*Mode of Perforation*	*Site of Perforation*	*Procedure*	*Course*
1.	69	No colon disease, basal cell cancer face	Sigmoidoscope	Free peritoneum, distal sigmoid	Closure and drainage	Uncomplicated
2.	49	Anemia, no colon lesion	Sigmoidoscope	Free peritoneum, distal sigmoid	Closure and drainage	Discharged 8th postoperative day
3.	49	Carcinoma thyroid, no colon disease	Enema before sigmoidoscopic examination	Free peritoneum, 10 cm distal sigmoid	Closure	Discharged 9th postoperative day
4.	87	Bleeding at site of sigmoid polyp biopsy	Sigmoidoscope	Free peritoneum, distal sigmoid	Closure and drainage	18th day drainage pelvic abscess, 38th day discharged well
5.	82	Carcinoma rectum, A-P resection three years before	Barium enema via colostomy (outside hosp.)	Sigmoid adjacent to colostomy, local abscess	Local resection drained	Discharged 14th postoperative day
6.	76	Carcinoma cecum	Barium enema perforation vagina	Vagina, free peritoneal cavity	Drained	Expired 24 hours postoperative
7.	86	No colon disease	Barium enema	Sigmoid colon	Closure and clostomy	Two mos. later colostomy closed, expired unrelated cause two mos. later
8.	47	Carcinoma recto-sigmoid, low anterior resection three years before	Sigmoidoscopy with biopsy	Sigmoid colon	Closure and drainage	Discharged 11th postoperative day, concomitant chronic granulocytic leukemia

moidoscope. The majority of the benign lesions and four of the carcinomas were found as a result of the proctoscopic examination in asymptomatic patients.

Perforations With the Sigmoidoscope

Five rectal or colonic perforations occurred during the sigmoidoscopic examinations, with one occurring during a repeat examination to control bleeding from a biopsy site. Sigmoidoscopic findings were normal in the other four patients. In four of the cases, perforation occurred at the junction of the rectum and the sigmoid colon where the bowel is sharply angulated. One woman developed incapacitating pain during the enema in preparation for sigmoidoscopy. This cleansing enema could have produced this perforation. In all but one of the cases, perforation was suspected during the examination, and all were confirmed by the radiologic demonstration of intraperitoneal free air. Pain was absent in two cases (Table 1).

All five patients were given antibiotics immediately and celiotomies were performed within five hours of the time of perforation. The sites of colonic perforation were identified and closed. The pelvic cavities were drained transabdominally in four cases. Colostomies were not constructed for any perforations caused by the sigmoidoscope. Four of the patients (three with drainage and one without) were fully recovered and were discharged within ten days. The fifth had a pelvic abscess drained on the 18th day and was discharged on the 38th day.

Perforations From Barium Enemas

Complications of barium enemas were treated three times at EFSCH during the same period. Only one perforation occurred among the 2,150 barium enemas performed in the hospital (.05%). Two additional patients were referred with colonic perforations that had occurred in

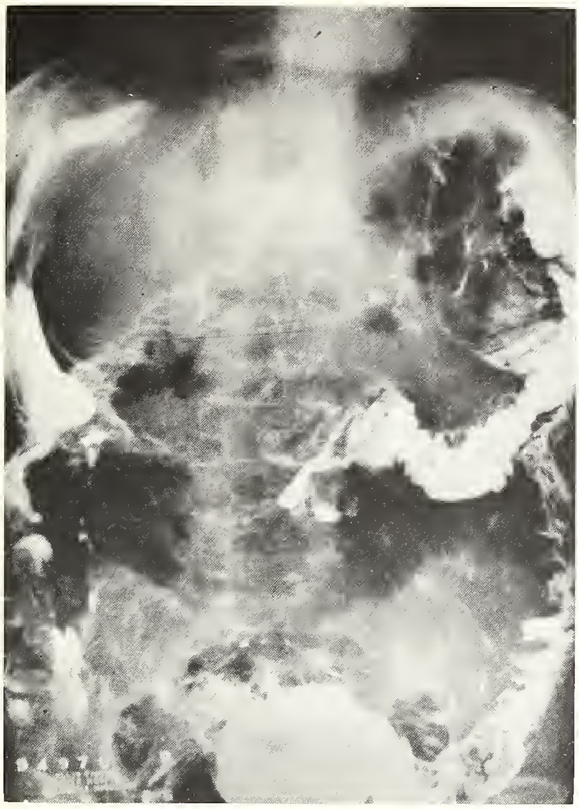

Fig. 1 An 86-year-old man with widespread barium intraperitoneal ten hours after perforation of the sigmoid colon.

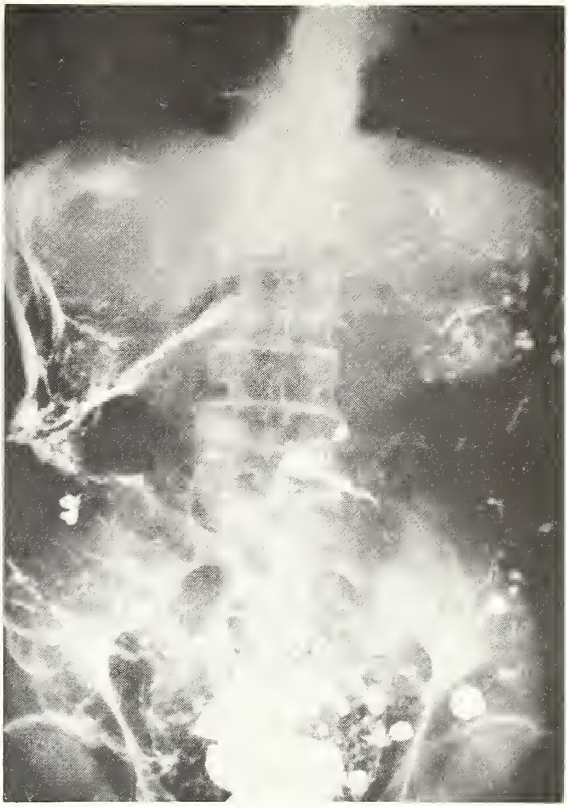

Fig. 2 A large amount of residual barium is present two months after colostomy and closure of the perforation.

roentgen diagnostic facilities not related to the EFSCH and are included for the purpose of discussing the management of the complication.

One of the three patients developed a localized barium abscess adjacent to an old colostomy. This patient's enema had been performed through the colostomy. The abscess was treated by drainage and resection of the colostomy along with the perforation. A new colostomy was then constructed with the more proximal bowel. This man was discharged as well after 14 days.

Two patients with widespread barium peritonitis were treated. The first case was caused by perforation through the posterior fornix of the vagina. The Bardex* catheter, used for instilling barium, had been incorrectly placed in the vagina. This complication was recognized and corrective surgery was performed within eight hours. Shock persisted through surgery despite appropriate treatment. The patient died 24 hours later.

The perforation in the second patient was through a normal sigmoid colon into the free peritoneal cavity. It occurred in an 86-year-old man. Figs. 1 & 2 show the widespread barium in this case. Treatment 12 hours later consisted of oversewing the perforation and constructing a transverse colostomy. This man recovered fully; two months later the colostomy was closed.

In all, one death was attributed directly to perforation from barium enema among 2,150 examinations. Two additional deaths occurred during or immediately after the examination from myocardial infarction and cerebral vascular accidents. No mortality attributable to intestinal preparation alone without performance of the examination occurred during the period studied, although deaths do occur as a result of this preparatory effort. These deaths are rarely logged into mortality registers since the patients dying never actually have the contemplated examinations. In elderly patients, cardiovascular accidents are not rare after intense intestinal preparation, and careful consideration should be given to the physiological status of any elderly individual in whom a barium enema is contemplated. The composite mortality rate associated with the barium enema examination was 0.14%. No deaths resulted from proctosigmoidoscopic examinations, but celiotomies to manage perforations were required five times among 7,000 proetosigmoidoscopic examinations.

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* C. R. Bardex Company, Inc., Murray Hill, N. J.

Discussion

Other studies have shown that as many as one and one-half to three carcinomas may be prevalent and discoverable per 1,000 sigmoidoscopic examinations performed on asymptomatic patients. Polyps are present in from 3% to 5% of patients.[1, 2] This prevalence increases with age.[3] In all screening studies, data should be presented to show that the complication and mortality rates of the examinations or the preparation for the examinations do not exceed the prevalence on first examination nor the incidence on periodic reexaminations. Also, any mortality and morbidity attributable to the biopsy or treatment of benign, premalignant or asymptomatic neoplasms discovered by these examinations must be considered in assaying the net worth of the screening examinations.

Only a small number of iatrogenic colonic injuries have been reported in the literature. The earliest report was 1912 from Munich.[4] In 1947, Andresen reviewed 48 case reports of proctoscopic perforations from the literature and collected 47 case reports of perforations in reponse to a questionnaire submitted to 340 members of the American Gastroenterological Association and the American Proctologic Association.[5] Andresen indicated that mortality in the operated cases was related to the length of time between perforation and surgery and that prompt laparotomy and closure of the perforation is requisite for the best survivals. Of 12 patients operated on immediately, only one mortality occurred. In 22 cases, the patient was observed until signs of peritonitis developed and 11 (50%) of these patients died.

Other case reports of colonic perforations by a proctoscope have been published. Only one perforation was reported among 50,000 examinations at the Cancer Detection Center of Chicago between 1943 and 1955 showing that a well organized, staffed and equipped clinic can keep the risk of perforation very low. Rapid recovery followed immediate surgical closure.[6] At the University Clinic Frankfurt am Main, three perforations due to a sigmoidoscope and five due to barium enema occurred within 20 years (1944-1964). More than over half of these patients died.[7]

Klein and Scarborough reviewed reports of 50 perforations of the rectum and distal colon.[8] They state, "Characteristically, there are no prompt dramatic symptoms when the rectum is perforated." Eleven of these perforations were attributable to proctosigmoidoscopic examinations. Of eight patients operated on immediately, one died. Of three patients operated on after 18 hours, two died. In intraperitoneal perforations, surgery should be performed before the development of signs and symptoms of peritonitis. Many of the cases reported in the literature as operative mortalities were managed expectantly until these findings developed. Klein and Scarborough reported 20 cases of perforation of the extraperitoneal rectum. Seventeen patients were treated with no surgical drainage, resulting in two mortalities. Almost all proctoscopic perforations occurred where the intestine is sharply angulated at the distal sigmoid.

Proctoscopic examination of newborn children is more hazardous than in older children and adults. In a review of ten iatrogenic perforations in newborn infants at the Columbus Children's Hospital, Fonkalsrud stated that there was much greater risk of perforation by sigmoidoscopy in this age group than in older children and adults. He recommended that barium enema be performed as the initial diagnostic procedure.[9]

Perforation may occur after a cleansing enema and not be recognized until the sigmoidoscopic examination has been performed. This probably occurred in one of the EFSCH cases. Similarly, perforation due to sigmoidoscopic examinations may go unrecognized until a barium enema is performed.[10]

Most of the reported perforations due to barium enema have been through ulcers, tumors, diverticula or other diseased areas.[6, 11] Using a questionnaire, Zheutlin, Lassey and Rigler collected 53 cases of perforations.[12] Details regarding the type of operation are not recorded for the other 29 patients who underwent celiotomy, but the mortality rate was less in this group. Prompt celiotomy, closure and drainage coupled with antibiotic coverage has resulted in survival in several reported cases.[11, 13, 14] In the late follow-up, 30% of the survivors underwent laparotomy for adhesions. This was necessary in approximately the same percentage of the surgical and nonsurgical groups.[12]

Chemical additives to the enema and fecal contamination of the peritoneal surface complicate the problem of perforation resulting from diagnostic enemas. Earlier, tannic acid was used as an adjuvant in approximately 25% of barium enemas to produce puckering of the mucosa, stimulate peristalsis and precipitate mucin.[15, 16] Tannic acid irritates the peritoneal serosa. In addition, tannic acid may cause fatal liver necrosis when added to enemas. This observation was reported first in 1963 by McAllister, *et al.*[17] Three children with hepatic necrosis died within seven days after receiving enemas containing 0.75% tannic acid. Studies in animals have shown that barium alone is less toxic to the peritoneum than barium and feces, emphasizing further the importance of early laparotomy to reduce the chance of fecal soilage.[18]

In the experimental evaluation of the treatment of barium peritonitis in animals, Westfall, Nelson and Musselman concluded that the best treatment was antibiotics and early closure of the perforation.[19] Within an hour, clumps of barium are held to the peritoneum by a layer of fibrin. Copious irrigation of the peritoneal cavity with saline can wash much of the barium free. Some barium must be left in order to prevent undue abrasion of the serosal surface.

A periodic review, such as this study, is necessary to insure that any procedure used for mass screening purposes remains essentially nondestructive. The cost analysis must consider the cost per man-year of useful life accruing to the asymptomatic individuals participating in preventive care surveys. The variables requisite to the study of the benefit and cost of the examination are as follows: (1) Frequency of the examination, (2) mortality of each examination, (3) morbidity of each examination, (4) man-years of life lost as a result of the mortality of the examination, (5) man-years of life lost from the treatment of chronic diseases in the predisease or presymptomatic disease state and (6) man-years of life added. If (4) plus (5) is greater than (6), the screening of asymptomatic people is detrimental and should be discontinued. If (6) is greater than (4) plus (5), then the effort is beneficial.

Data on all these variables do not presently exist. Consequently, we continue to be guided by certain generalizations derived from this and previous studies: (1) Proctosigmoidoscopic and barium enema are important methods for examining *symptomatic* persons. (2) The small but measurable morbidity and mortality restricts the use of the examination in asymptomatic patients to those past 45 years of age when the probability of finding disease becomes great enough to justify the effort and exceed the small but measureable morbidity and mortality rate of the examination. (3) When used in asymptomatic persons past age 45 and when the examinations are within normal limits, the rate of new growth is slow enough to negate the need for reexamination more often than every two to three years, even in the high risk age group. (4) Previous studies have shown that the *entire* population is increasingly at risk to develop colorectal carcinomas with advancing age regardless of the presence or absence of various benign growths making the identification of a high cancer risk group difficult except for the known increase in incidence with age.[20] The only exceptions are familial adenomatous polyposis and ulcerative colitis.[13] The major complication of both sigmoidoscopic examination and barium enema is perforation. These perforations when intraperitoneal are treated most effectively by prompt celiotomy and primary closure. Drainage and colostomy are rarely necessary. The stress of these examinations on elderly people can also precipitate lethal cardiovascular accidents and a rare individual can have hemorrhage and sepsis from biopsy.

In all, eight patients with iatrogenic colonic perforations were treated at the Ellis Fischel State Cancer Hospital between 1962 and 1967, including two with barium peritonitis. Antibiotics and *prompt* closure of the perforation were requisite for survival. Colostomy is generally unnecessary in acute perforations produced by the sigmoidoscopic instrumentation.

The one patient who died as a result of perforation was 76 years old and had a very large cecal carcinoma with extensive local invasion and numerous other chronic diseases identified by autopsy. At this age, without the cecal cancer, the patient had an average of 7.6 years of life remaining.[17] With such a large cecal cancer, no more than one man-year of life was lost as a result of 9,150 colonic and rectal examinations by proctosigmoidoscopic study and barium enema after treatment of the several complications. No lives were lost in disease-free or asymptomatic patients. However, among 100,000 persons being examined annually by these methods, as many as 11 deaths might occur if the observed rate remained consistent. The incidence of colorectal cancer does not exceed 13 per 100,000 per annum until age 45 years. As a general principle, the risk of repetitive examinations in asymptomatic patients must be less than the known incidence. The loss of productive life from any mortality associated with the treatment of still asymptomatic cancer must be counterbalanced by an actuarial gain in the balance of the examined and treated population. Use of proctosigmoidoscopic examination and barium enema as part of the routine physical examination in asymptomatic patients must be coupled with an appreciation and avoidance of the potential complications and prompt management when complications occur. The detection of predisease states must similarly be succeeded by equally nondestructive treatment methods. Morbidity and mortality undoubtedly vary in different clinics but, until the rates are zero, the methods cannot be considered "nondestructive" and restrictions will exist on frequent and indiscriminate usage in asymptomatic patients.

SUMMARY

The experience at the EFSCH with sigmoidoscopic examination and barium enemata from 1962 through 1967 has been reviewed with emphasis on the complication of perforation and its management. The vital importance of prompt diagnosis, celiotomy and closure of the perforation is emphasized.

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A new National Cancer Institute-Veterans Administration Medical Oncology Service has been established at the Washington, D.C. Veterans Administration Hospital. The Service will function both as a part of the Medicine Branch of the National Cancer Institute, National Institutes of Health and the Washington, D.C. Veterans Administration Hospital Medical Services.

This collaboration is viewed by both the National Cancer Institute and the Veterans Administration as an excellent example of cooperative efforts between agencies for the enhancement of both programs and furthering of mutual aims including the best of patient care.

Dr. Kenneth M. Endicott, Institute Director, said the new Service reflects the growing importance of drugs in cancer treatment. The unit will serve as a focal point for the Institute's expanding research program on lung cancer and certain other forms of cancer.

The Service will plan and conduct clinical trials with new and established anticancer drugs and investigate the activity of new agents. It will also evaluate the possible role of the body's defense mechanisms in influencing the survival time and response to treatment of patients with lung cancer.

A 30-bed facility at the VA Hospital will be devoted to the cancer chemotherapy studies. At the present time the unit has two senior investigators, a junior physician and a VA staff physician, in addition to Dr. Selawry.

GALEN B. COOK, M.D., ***Columbia***

Direct Patient Retrieval of Cancer Risk Data

The author presents questionnaires containing 120 questions for men and women that are easily understood and can be answered by most patients in less than ten minutes. The results should enable the physician to condense suspicion of cancer to a smaller number of sites and help to reduce the workload of cancer detection to a practical level. Physicians are invited to test the questionnaires in their office practice. Dr. Cook is Chairman, Department of Applied Medical Engineering, The Cancer Research Center. This study was supported by N.I.H. Grant CA-08023.

THE PURPOSE OF CLINICAL RESEARCH is to effect meaningful improvement in the treatment of human disease. Unless new ideas can be implemented, however, much of their exciting and promising value lies dormant. During the past several decades, a mass of information has accrued about environmental factors which may be causative or contributive to cancer. In only a few instances has this information been well publicized: the suspected relationship between cigarette smoking and cancer of the oral cavity, larynx, lung and urinary bladder is widely known to the medical profession. Awareness of a correlation between cigarette smoking and certain cancers is an asset to the physician. Ideally, he observes more judiciously those of his patients who smoke heavily and detects cancer in a less advanced, more curable stage in the pertinent target areas.

Many other etiologic factors for cancer also have been related to target organs, but only a few have been publicized. Seldom have they been presented in a unified format. Consequently, the physician has difficulty making practical use of them.

This presentation lists most of the known risk factors found to be statistically significant in patients with cancer and presents them in questionnaire form. These risk factors were discovered through diverse studies throughout the world published by recognized authorities. They are organized so that *they can be retrieved from the patient without taking physician or office-nurse time.* They are divided by sex to be socially discreet and make anatomic sense (Figs. 1 & 2). They are titled so that they do not imply cancer testing (this has been avoided in order not to compound patient fears of the disease). They are written so that they are easily understood by most people. They are phrased so that an affirmative answer highlights one or several target organs that *may be* at risk with early cancer. By matching the positive answers to the anatomic locater code, the physician can quickly find those body parts that deserve his thoughtful attention, either now or in the future. To fully utilize the opportunity afforded by the questionnaire, a few pertinent early symptoms of cancer are included with the risk factor assessment. Each list contains 120 questions and can be completed by most persons in less than ten minutes.

With our present knowledge, no set of questions can be compiled to ferret presymptomatic cancer very reliably—this must be done by physical examination. However, if we can condense our suspicions to a smaller number of sites for any one person, the workload of cancer detection may be reduced to a practical level and our efforts may be more productive. The questionnaire is not, at present, a substitute for a complete physical examination.

The physician who wishes to test these questionnaires in his office practice may receive reprints of them from the Cancer Research Center. If the response is significantly large, we will consider developing a special program to serve Missouri physicians by further streamlining the data and designing a means for simplifying the follow-up of positive responses.

QUESTIONNAIRE FOR WOMEN

Are you in direct sunlight more than one hour each day?	YES	SKNLIP
Do you have blue eyes?	YES	SKNLIP
Do you have a light complexion?	YES	SKNLIP
Do you have red hair?	YES	SKNLIP
Do you have freckles?	YES	SKNLIP
Do you have any red, rough spreading areas in your skin?	YES	SKNLIP
Do you have any crusted, bleeding areas in your skin?	YES	SKNLIP
Do you have any skin sores that won't heal?	YES	SKNLIP
Do you have any scars caused by bad burns?	YES	SKN
Do you have any pearly grey raised places in your skin?	YES	SKN
Have you ever been treated with radium or radiation?	YES	SKNTHYBLA
Is any part of your face swollen?	YES	SINSAL
Is your face sore?	YES	SINSAL
Are either of your jaws swollen?	YES	SAL
Do you have any tender places in your mouth?	YES	MOU
Do your dentures fit poorly?	YES	MOU
Do you have teeth with unfilled cavities and broken edges?	YES	MOU
Do you drink alcoholic beverages every day?	YES	MOUESOLIV
Have you ever had syphilis?	YES	MOUESO
Do you smoke cigarettes?	YES	MOULYXLUNBLA
Has your breath been bad recently?	YES	MOULYXESO
Has your voice become hoarse recently?	YES	LYX
Were you born in China or Hong Kong?	YES	NSX
Do you burn incense in your home?	YES	NSX
Have you begun to have nosebleeds for no apparent reason?	YES	NSX
Have you recently found difficulty breathing through your nose?	YES	NSX
Has your throat been sore more than four weeks?	YES	MOUNSXLYX
Have you ever been given iodine for a goiter?	YES	THY
Are any of your joints sore or swollen?	YES	LUNBON
Do you breathe traffic smog more than two hours a day?	YES	LUN
Do you have a cough that has lasted more than a month?	YES	LUN
Do you ever cough blood?	YES	LUN
Do you have a place in your chest that pains?	YES	LUNBRS
Does food seem to stick in your gullet after you swallow it?	YES	ESO
Do you eat charcoal cooked food at least once a week?	YES	STO
Were you born in Japan, Austria, Finland, Chile or Costa Rica?	YES	STO
Have you ever had a blood relative with a stomach tumor?	YES	STO
Have you ever had pernicious anemia?	YES	STO
Do you have blood type A?	YES	STO
Do you tend to avoid salty food?	YES	STO
Do you eat your meals at irregular times?	YES	STO
Do you usually eat two or more potatoes each day?	YES	STO
Is the food you eat usually cooked in lard?	YES	STO
Have you lost all your teeth?	YES	STO
Do you vomit blood?	YES	STO
Have you developed spells of vomiting?	YES	STO
Have you been sick to your stomach often during the last year?	YES	STO
Do you have pain in your stomach just after you eat?	YES	STO
Do you have indigestion now, that you didn't have a year ago?	YES	STOLIV
Have you lost your appetite in the last six months?	YES	STOLIV
Have you ever been told you have liver cirrhosis?	YES	LIV
Have you ever lived in the Orient?	YES	LIV
Have you ever been told you had gallstones?	YES	GAL
Are your stools ever black?	YES	STOCOL
Do you eat food cooked in reused fat?	YES	STOCOL
Do you have to strain more now to pass your stools?	YES	COL
Do you have pain when you pass wind?	YES	COL
Are your stools becoming narrower?	YES	COL
Have you noticed blood on your bowel movements recently?	YES	COL

Fig. 1

Have you had loose, wet stools in the past month?	YES	COL
Have you ever had ulcerative colon disease?	YES	COL
Have members of your family had multiple polyps of the colon?	YES	COL
Do heart attacks and strokes "run in your family"?	YES	COL
Are you Jewish?	YES	COL
Are you of Italian descent?	YES	COL
Are you frequently constipated?	YES	COL
Recently has the lower part of your stomach been swollen?	YES	COLBLA
Do you have pain in the lower parts of your stomach?	YES	COLBLA
Do you have discomfort when you pass water?	YES	BLA
Have you ever lived in Egypt?	YES	BLA
Have you ever noticed blood when you pass your water?	YES	BLAKID
Recently do you need to get up more at night to pass water?	YES	BLA
Have you started to have swelling in your feet or legs?	YES	KID
Have you started to have cramps in your leg muscles recently?	YES	KIDBON
Have you recently developed backache that you never had before?	YES	KIDBON
Does either of your breasts feel heavy?	YES	BRS
Have any women in your family had breast cancer?	YES	BRS
Are you single, divorced or widowed?	YES	BRS
Have you bottle-fed all your babies?	YES	BRS
Have you noticed any lumps in your breasts during the last year?	YES	BRS
Has either of your breasts recently gotten larger?	YES	BRS
Does blood ever come from your nipples?	YES	BRS
Does either of your breasts stay sore?	YES	BRS
Have you spent your life without a pregnancy?	YES	BRSEND
Have you ever had a goiter?	YES	END
Are you a stout person?	YES	END
Do you have sugar diabetes?	YES	END
Did your menopause occur after age 50?	YES	END
Have you ever had high blood pressure?	YES	END
Have you ever had a miscarriage?	YES	END
Are you five foot six inches or taller?	YES	END
Have your menstrual cycles been irregular most of your life?	YES	END
When you menstruate is the flow always heavy?	YES	END
Does your husband still have the foreskin over his penis?	YES	CVX
Did you have sexual intercourse before you were age 15?	YES	CVX
Were you pregnant before you were 17 years old?	YES	CVX
Have you been married more than two times?	YES	CVX
Did you have more than four children before you were 25?	YES	CVX
Do you have a discharge from your vagina?	YES	CVXVAG
Do you bleed from your vagina between your periods?	YES	CVXVAGVUL
Over the last year, have you had pain during intercourse?	YES	CVXVAGVUL
Has the skin around your vagina become dry or sore?	YES	VUL
Do you have ringing in your ears?	YES	CNS
Are you rapidly becoming deaf?	YES	CNS
Have you noticed recently that you see double?	YES	CNS
Has your vision suddenly gone bad?	YES	CNS
Have you started to have bad headaches over the last year?	YES	CNS
Have you fainted in the last year?	YES	CNS
Do you find yourself more drowsy now than last year?	YES	CNS
Have you begun to have trouble controlling your temper?	YES	CNS
Has your memory become noticeably worse in the last year?	YES	CNS
Do you have tingling or burning sensation in your skin?	YES	CNS
Do your hands quiver so you can't control them?	YES	CNS
Do you often feel you are falling or losing your balance?	YES	CNS
Do you have shooting pains in your body?	YES	BONCNS
Do you have any swelling in places around your neck?	YES	LYMTHY
Have you recently noticed any swelling in your groins?	YES	LYMGEN
Have you recently noticed any swelling in either armpit?	YES	LYMBRS
Have you become lame in the last year?	YES	BON
Do you take drugs for epileptic seizures?	YES	LYM

Fig. 1 ***(Continued)***

QUESTIONNAIRE FOR MEN

Are you in direct sunlight more than one hour each day?	YES	SKNLIP
Do you have blue eyes?	YES	SKNLIP
Do you have a light complexion?	YES	SKNLIP
Do you have red hair?	YES	SKNLIP
Do you have freckles?	YES	SKNLIP
Have you ever worked with arsenic chemicals?	YES	SKNLIP
Have you ever worked with nitrate chemicals?	YES	SKNLIP
Have you ever worked with tar, pitch or soot?	YES	SKNLIP
Do you have any red, rough spreading areas in your skin?	YES	SKNLIP
Do you have any crusted, bleeding areas in your skin?	YES	SKNLIP
Do you have any skin or lip sores that won't heal?	YES	SKNLIP
Do you have any scars caused by bad burns?	YES	SKN
Do you have any pearly grey raised places in your skin?	YES	SKN
Have you ever been treated with radium or radiation?	YES	SKNTHYBLA
Is any part of your face swollen?	YES	SINSAL
Is your face sore?	YES	SINSAL
Are either of your jaws swollen?	YES	SAL
Do you smoke a pipe or cigars?	YES	LIPMOULYXKID
Do you chew tobacco?	YES	MOU
Do you use snuff?	YES	MOU
Do you have any tender place in your mouth?	YES	MOU
Do your dentures fit poorly?	YES	MOU
Do you have teeth with unfilled cavities and broken edges?	YES	MOU
Do you drink alcoholic beverages every day?	YES	MOUESOLIV
Have you ever had syphilis?	YES	MOUESO
Do you smoke cigarettes?	YES	MOULYXLUNBLA
Has your breath been bad recently?	YES	MOULYXESO
Has your voice become hoarse recently?	YES	LYX
Were you born in China or Hong Kong?	YES	NSX
Do you burn incense in your home?	YES	NSX
Have you begun to have nosebleeds for no apparent reason?	YES	NSX
Have you recently found difficulty breathing through your nose?	YES	NSX
Has your throat been sore more than four weeks?	YES	MOUNSXLYX
Have you ever been given iodine for a goiter?	YES	THY
Are any of your joints sore or swollen?	YES	LUNBON
Have you ever worked with asbestos chemicals?	YES	LUN
Have you ever worked with nickel chemicals?	YES	LUN
Have you ever worked with beryllium chemicals?	YES	LUN
Have you ever worked with chromate chemicals?	YES	LUN
Do you breathe traffic smog more than two hours a day?	YES	LUN
Do you have a cough that has lasted more than a month?	YES	LUN
Do you ever cough blood?	YES	LUN
Do you have a place in your chest that pains?	YES	LUN
Does food seem to stick in your gullet after you swallow it?	YES	ESO
Do you eat charcoal cooked food at least once a week?	YES	STO
Were you born in Japan, Austria, Finland, Chile or Costa Rica?	YES	STO
Have you ever had a blood relative with a stomach tumor?	YES	STO
Have you ever had pernicious anemia?	YES	STO
Do you have blood type A?	YES	STO
Do you tend to avoid salty food?	YES	STO
Do you eat your meals at irregular times?	YES	STO
Do you usually eat two or more potatoes each day?	YES	STO
Is the food you eat usually cooked in lard?	YES	STO
Have you lost all your teeth?	YES	STO
Are you exposed to iron dust?	YES	STO
Do you vomit blood?	YES	STO
Have you developed spells of vomiting?	YES	STO
Have you been sick to your stomach often during the last year?	YES	STO
Do you have pain in your stomach just after you eat?	YES	STO

Fig. 2

Do you have indigestion now, that you didn't have a year ago?	YES	STOLIV
Have you lost your appetite in the last six months?	YES	STOLIV
Have you ever been told you have liver cirrhosis?	YES	LIV
Have you ever lived in the Orient?	YES	LIV
Have you ever been told you had gallstones?	YES	GAL
Are your stools ever black?	YES	STOCOL
Do you eat food cooked in reused fat?	YES	STOCOL
Do you have to strain more now to pass your stools?	YES	COL
Do you have pain when you pass wind?	YES	COL
Are your stools becoming narrower?	YES	COL
Have you noticed blood on your bowel movements recently?	YES	COL
Have you had loose, wet stools in the past month?	YES	COL
Have you ever had ulcerative colon disease?	YES	COL
Have members of your family had multiple polyps of the colon?	YES	COL
Do heart attacks and strokes "run in your family"?	YES	COL
Are you Jewish?	YES	COL
Are you of Italian descent?	YES	COL
Are you frequently constipated?	YES	COL
Recently has the lower part of your stomach been swollen?	YES	COLBLA
Do you have pain in the lower parts of your stomach?	YES	COLBLA
Have you ever worked with aniline dye chemicals?	YES	BLA
Do you have discomfort when you pass water?	YES	BLA
Have you ever lived in Egypt?	YES	BLA
Have you ever noticed blood when you pass your water?	YES	BLAKID
Recently do you need to get up more at night to pass water?	YES	BLAPRS
Do you pass blood when you reach a sex climax?	YES	PRSTST
Do you have pain when you have an erection?	YES	PRSPEN
Is your urine stream getting weak and narrow?	YES	PRS
Do you have pain deep behind your testicles?	YES	PRSCOL
Have you lost your sex ability in the last year?	YES	PRSCOL
Do you wash your privates less than once a week?	YES	PEN
Are you unable to skin-back the foreskin of your penis?	YES	PEN
Do you have sores on your penis?	YES	PEN
Did either of your testicles fail to develop?	YES	TST
Has either of your testicles gotten larger recently?	YES	TST
Has either of your testicles been sore recently?	YES	TST
Does blood ever come from your nipples?	YES	BRS
Does either of your breasts stay sore?	YES	BRS
Have you noted swelling near your nipples?	YES	BRS
Do you have ringing in your ears?	YES	CNS
Are you rapidly becoming deaf?	YES	CNS
Have you noticed recently that you see double?	YES	CNS
Has your vision suddenly gone bad?	YES	CNS
Have you started to have bad headaches over the last year?	YES	CNS
Have you fainted in the last year?	YES	CNS
Do you find yourself more drowsy now than last year?	YES	CNS
Have you begun to have trouble controlling your temper?	YES	CNS
Has your memory become noticably worse in the last year?	YES	CNS
Do you have tingling or burning sensation in your skin?	YES	CNS
Do your hands quiver so you can't control them?	YES	CNS
Do you often feel you are falling or losing your balance?	YES	CNS
Do you take drugs for epileptic seizures?	YES	LYM
Have you noticed any swelling in your groins?	YES	LYMPENTSTBLA
Do you have any swelling in places around your neck?	YES	LYMTHY
Have you recently noticed any swelling in your groins?	YES	LYM
Have you recently noticed any swelling in either armpit?	YES	LYMBRS
Have you become lame in the last year?	YES	BON
Do you have shooting pains in your body?	YES	BONCNS
Have you started to have swelling in your feet or legs?	YES	KID
Have you started to have cramps in your leg muscles recently?	YES	KIDBON
Have you recently developed backache that you never had before?	YES	KIDBON

Fig. 2 ***(Continued)***

WILLIAM L. DONEGAN, M.D., ***Columbia***

The Importance of Early Diagnosis in the Management of Mammary Carcinoma

Cancer of the breast continues to constitute almost one-quarter of all cancers of women in the United States. Since 1947, it has been their greatest cause of death from this disease and, now, more than 27,000 can be expected to succumb annually, approximately 700 of whom will be residents of Missouri.[1]

Efforts to develop more effective means of control have produced a variety of operations designed to remove the breast and the regional lymphatics and a plethora of useful palliative measures. A true therapeutic breakthrough has eluded researchers however. The gradual increase in survival rate of the afflicted population over the last 25 years reported in national statistics is probably the result of earlier diagnosis rather than therapeutic acquisitions.[2]

The magnitude of this problem and the importance of early diagnosis were evident in a recent survey of mammary cancer from 1939 to 1965 at the Ellis Fischel State Cancer Hospital. A portion of the data from this survey constitutes the basis of this report.

The magnitude of the problem of mammary carcinoma and the importance of early diagnosis are emphasized by this 25-year survey at Ellis Fischel State Cancer Hospital. The author states that the greatest improvement in treatment results can be expected from earlier detection until a significant breakthrough is made in the therapy of cancer of the breast. Dr. Donegan is Surgeon and Associate Scientist, Ellis Fischel State Cancer Hospital and Cancer Research Center, and Assistant Professor of Surgery, University of Missouri School of Medicine. This investigation was supported by Cancer Clinical Research Grant No. CA-08023-03 from the U. S. Department of Health, Education and Welfare, National Cancer Institute, National Institutes of Health.

Materials and Methods

Materials consisted of the hospital records of all patients referred to the Ellis Fischel State Cancer Hospital for disease of the breast from 1939, when the hospital opened, to 1965. The data from these records were placed on code sheets and then punched onto cards for computor analysis. The diagnosis of carcinoma was not always established histologically, occasionally being based upon physical examination of an advanced case in the early records. Patients with resectable disease were almost uniformly treated with a standard radical mastectomy. Occasionally, this was combined with adjuvant irradiation, oophorectomy or chemotherapy. Sex hormone administration, adrenalectomy and chemotherapy were introduced as palliative measures during the period, and palliative treatment sometimes included simple mastectomy.

The Columbia Clinical Classification was used for clinical staging. Survival was measured from the time of diagnosis by the actuarial method.[3] Age correction eliminated deaths due to causes other than the cancer under consideration and, thereby, compensated for unequal mortality risk due to age variation in each group of patients presenting yearly.[4] While the adjusted survival figures are not actual, comparisons between years have increased validity.

Results

The survey revealed that 4,001 patients presented with a breast complaint during the interval. Of these, 2,621 were diagnosed as having carcinoma, thirty-three as having sarcoma and 1,690 as having benign disease of the breast. A simultaneous diagnosis of benign and malignant disease was made in some cases.

The constancy of the cancer problem was evident since approximately 150 new cases were seen each year, and constituted 15% of all referrals and about 9% of all new cases in the state, if one assumes a similar state and national incidence-mortality ratio (Fig. 1). Sarcomas constituted only 1.2% of the total malignancies and, for this reason, contributed little to the overall problem of control. Subsequent to 1956, the number of benign lesions steadily diminished. During the same period, the number of previously excised or previously treated cases increased. It is possible that this indicates a tendency for referring physicians to biopsy suspicious lesions more often than formerly and to depend less upon clinical diagnosis as a basis for referral.

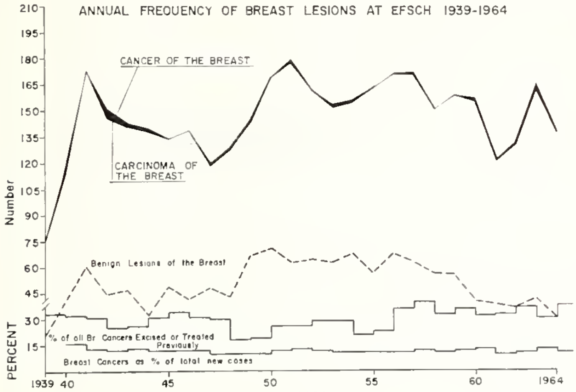

Fig. 1 The number of new patients referred to Ellis Fischel State Cancer Hospital with cancer of the breast and their proportion of all new cases has remained relatively constant since 1940. Recently, there has been a decrease in the number presenting with benign lesions of the breast.

The five- and ten-year age-corrected survival of all patients with a diagnosis of mammary carcinoma, treated or untreated, in all stages and subjected to all forms of therapy is shown in Fig. 2. There was a gradual increase in the five- and ten-year survival from 1939 to 1948. Thereafter, the five-year survival plateaued while the ten-year survival declined somewhat. While progress is apparent in the first half of the period as compared with the second half, it did not continue into the final 15 years. Throughout the entire period, there was a constant attrition in survival of about 30% in the follow-up interval between five and ten years. This was not affected by the overall salvage rate, averaging 31% in the first ten years of the survey, when survival was low but increasing, and 28% in the last nine years, when it was higher but had ceased to improve.

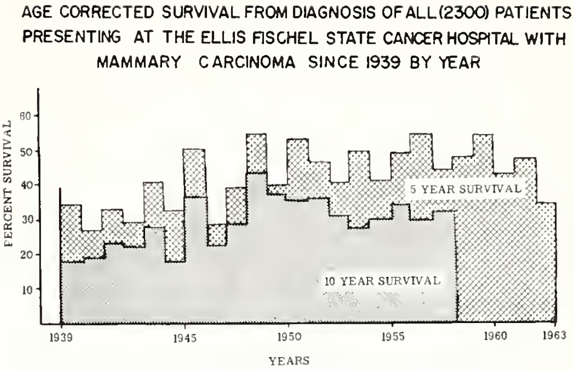

Fig. 2 The age-corrected five- and ten-year absolute survival of all patients with mammary carcinoma treated annually increased through 1948. The five-year survival remained stable and the ten-year survival declined somewhat after that date.

Fig. 3 shows the percentage of all cases of carcinoma treated with radical surgical removal of the breast and regional lymphatics and the per cent of cases in each clinical stage of the disease. Radical surgery was used with steadily increasing frequency through 1956, when a peak of 68% of all patients were so treated. This trend was associated with a steady decrease in the proportion with advanced disease (Stage D). Unfortunately, the increased use of radical operations was not matched by a corresponding

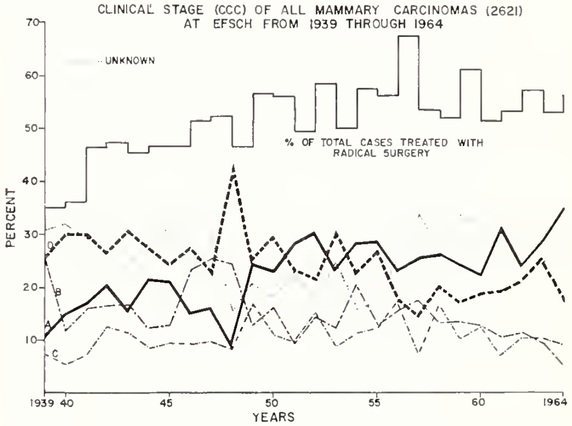

Fig. 3 The per cent of the total cases of mammary carcinoma treated with radical surgery, i.e., standard, extended or modified (Patey) radical mastectomy, steadily increased through 1956. This was not associated with a sustained increase in survival. The per cent of admissions with respect to clinical stages (Columbia Clinical Classification) shows that advanced cases have made a steady decline (Stage D) and cases with clinically localized disease (Stage A) had a sudden increase in 1949 which was subsequently sustained. The increase in early disease corresponds well with improved survival in Fig. 2.

sustained rise in the absolute survival rate. Survival ceased to improve after 1948, while the surgical trend continued until 1956 or for an additional eight years.

A correlation is evident, however, between the annual overall survival noted in Fig. 2 and changes in the clinical stages of the disease in patients presenting at the hospital as shown in Fig. 3. Improved survival corresponded with an increase of early cases and a diminution in late ones. This is most notable for Stage A, at one extreme, in which the disease is still confined to the breast clinically, as opposed to Stage D, which is usually considered incurable. The year 1949 saw a sudden increase in the proportion of all cases presenting with localized disease (Stage A), which intersected a decline in the most advanced stage (Stage D), the beginning of a reversal in the per cent of cases at the extremes of the clinical spectrum. Prior to 1949, Stage A consisted of barely more than 30% of all stageable cases at the most, while afterwards they comprised between 36% and 46%. The plateau in survival, appreciated in the latter half of the period surveyed, corresponded with a similar plateau in the proportion of early cases.

A pertinent question is whether there has been any improvement in survival not related to earlier case finding. The answer can be found in Fig. 4, which shows the annual age-corrected five-year survival from diagnosis for each clinical stage. Results for each year were used to determine a line by the method of least squares, which smooths out the continuum of results and makes any trend easier to perceive.[5] It is evident that earlier stages consistently have superior survival to later ones, but, for each stage, the survival line is practically horizontal, indicating no appreciable improvement in results reflected in improved gross survival over the past 25 years. An obvious improvement is apparent in the group which, for reason of previous excision or treatment prior to referral, was of unknown stage. Judging from the results in stageable cases, this group was composed of an increasing proportion of early cases and, possibly, reflects an encouraging tendency for physicians to biopsy any suspicious lesion in the breast and detect mammary carcinomas earlier in their evolution.

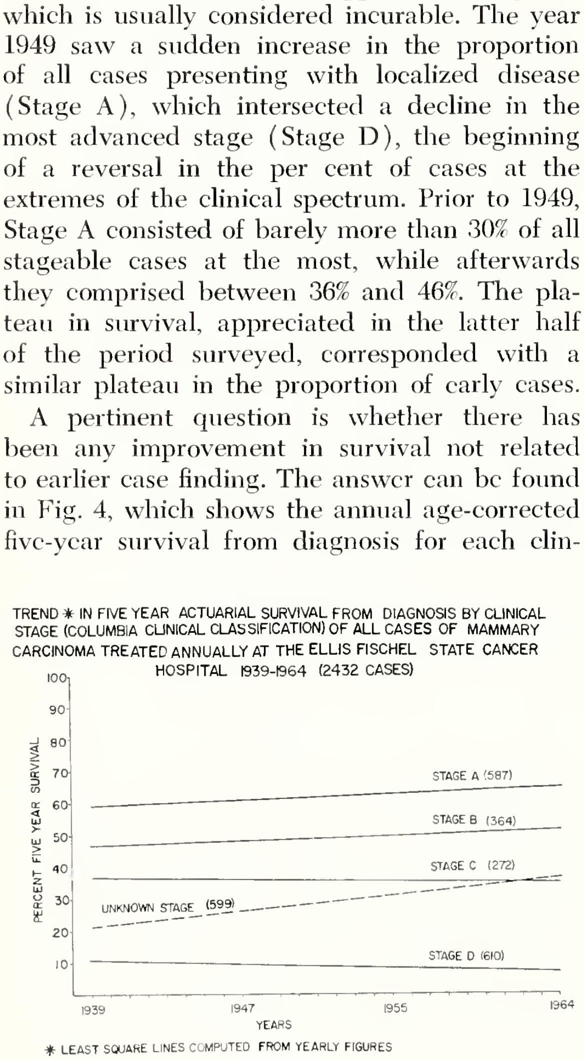

Fig. 4 No significant trend in the survival of patients with mammary carcinoma over the 25-year period reviewed was appreciated when the patients were considered with respect to clinical stage at the time of diagnosis. The steady improvement in the survival of patients of unknown stage was attributed to an increasing proportion of patients in this group with early disease referred after an excisional biopsy.

DISCUSSION

The data presented indicate that significant reduction in mortality from mammary cancer has been associated with the detection of earlier cases. The value of early detection also is reflected in results published from cancer detection centers where patients with small asymptomatic cancers of the breast are found to have infrequent lymphatic metastases and excellent survival at five years. Gilbertson and Wangensteen reported from the Cancer Detection Center at the University of Minnesota the detection of 25 asymptomatic mammary cancers, only 24% of which had produced lymphatic metastases. Treatment of 24 of these cases with radical mastectomy resulted in a five-year survival of 91%.[6]

Effective early detection depends upon a conscientious effort by both the physician and the patient. Despite the increase of cancer detection centers and the use of sophisticated equipment, the individual practicing physician and the careful physical examination still must carry the majority of the burden of early detection. Although no complaint is referred to the breasts, a high index of suspicion and a thorough examination of the breast must be an indispensable part of each physical examination. The method described by Haagensen is especially designed to insure a careful examination of all parts.[7] Such a routine may be expected to detect two or three asymptomatic cancers per thousand patients examined for the first time.[6]

Women more than 30 years of age also should be educated to examine their breasts thoroughly for masses or suspicious changes at least once monthly. The author is impressed by the number of women who report that they first discovered an abnormality while bathing. This is not surprising since the effectiveness of palpation with soapy fingers in detecting small masses in the breast has been described previously.[8] Routine systematic palpation of the entire breast and regional node-bearing areas with soapy fingers at the time of each bath could be recommended as a convenient, effective and relatively unburdensome habit for women to develop. Also, it probably would be more readily practiced than an inconvenient ritual requiring special preparations at another time.

Although the indications for mammography as a diagnostic procedure have become fairly well established, its role in routine screening of large populations is still under investigation. Even if relatively unproductive on this scale, it, nevertheless, is probably feasible in certain categories of patients known to be of high risk for the disease, e.g. women with a family history of cancer, with one breast previously removed for cancer and with severe cystic disease.

Probably the most aggressive approach to early detection is that of Urban, who performs a biopsy of the second breast at the time of mastectomy in an attempt to diagnose early second primaries.[9] If a minimally suspicious area is present on clinical examination or mammogram, it is chosen; if not, then a generous random biopsy of the upper outer quadrant and of the area corresponding to the cancer in the opposite breast is performed. Twenty-four per cent of patients with minimally suspicious lesions had cancers on biopsy, and 60 random biopsies of the apparently normal breasts produced one infiltrating and six noninfiltrating cancers. While this procedure was originally employed only for selected patients thought to be at high risk for cancer in the opposite breast, it has now been made routine. The results will be of continuing interest. The advantage of this policy is that it detects a number of very early and optimally treatable cancers while stopping short of prophylactic mastectomy.[10, 11] Its disadvantage, other than the resulting scar, is that which is generally inherent in random biopsies—it does not rule out the presence of cancer and, obviously, does not preclude the development of subsequent cancers. Curiously, Urban's rate of bilaterality is higher than one would expect if patients successfully treated for cancer in one breast were allowed to develop a symptomatic cancer in the remaining breast (approximately 8% to 10%). Presumably, this is an effect of selecting for biopsy in the early part of the series patients at particularly high risk for bilateral disease, e.g. those with lobular carcinoma in situ or of detecting cancers which would not become symptomatic during the patient's lifetime if left untreated, a possible side effect of vigorous early diagnosis.

One must presume that the improved survival associated with early detection is contingent upon the application of effective primary therapy when the cancer is discovered. At the present time, the most dependable therapy for early cases is thorough surgical eradication of the local and regional disease. When this fails, it is apparently because either the localized disease was ineffectually treated or had already spread via lymphatics or blood stream beyond regional confines. As far as can be determined, reliance upon various adjuvants to eradicate residual cancer after a less than thorough removal is a false hope. Once systemic spread occurs, there is very rarely a cure.

While the mastectomy operation for primary disease employed at Ellis Fischel State Cancer Hospital varied little, innovations in palliative therapy were introduced during the period reviewed. These included sex hormone administration begun in 1947, bilateral orchiectomy in 1946 and chemotherapy in 1960. Each is capable of producing transient symptomatic improvement of the patient and temporary regression of metastatic lesions. Although ablation of the adrenals and of the hypophysis by irradiation was attempted as early as 1955 without success, adrenalectomy was introduced seven years later and is of definite benefit in some cases. Irradiation castration was practiced from the time the hospital opened, but became largely supplanted by surgical castration after 1945. The clinical usefulness of these measures is undisputed. Because of restricted applicability, modest response rates or limited ability to prolong life in responders, however, they had no obvious effect in diminishing overall mortality after their introduction.

Similarly, irradiation is of definite clinical usefulness, but there is no conclusive evidence that it effectively improves survival when used as an adjunct to adequate surgery for the primary lesion. A number of studies, both prospective and retrospective, have attempted to evaluate the effectiveness of prophylactic irradiation.[12–14] No significant improvement in survival has been appreciated, although a delay in appearance of chest wall or supraclavicular metastases in those individuals destined for recurrence seems to occur. On the other hand, late irradiation morbidity and, possibly, a detrimental effect upon the survival of patients not destined for recurrence have been reported.[15] In general, it appears that many individuals receive irradiation needlessly in order to delay recurrence in those who could achieve equal benefit from treatment once recurrence develops.

Until more effective therapy is developed for all stages of mammary cancer, the emphasis for control must be upon detection of the disease in its earliest stages. Incompletely answered is whether early detection with longer survival after treatment is synonymous with increased control or whether the improvement in survival is an illusion created by earlier recognition of the disease. Long term follow-up results showing a significant reduction in the proportion of all deaths which are attributable to the cancer in question, in the absence of other mortality trends, eventually answers this question. Meanwhile, early detection is the most promising avenue for progress and efforts concentrated in this direction are justified.

Conclusion

Overall results of the treatment of mammary cancer over a 25-year period at the Ellis Fischel State Cancer Hospital were reviewed. The gross age-corrected five- and ten-year actuarial survival of all patients with this disease improved in the early part of the period, but no improvement was evident after 1948.

Despite the introduction of a number of palliative measures during the period reviewed, no improvement in survival was noted within any clinical stage category and the improvement in overall survival corresponded with an increase in the proportion of patients presenting with early stages of the disease.

Until a significant breakthrough is made in the therapy of cancer of the breast, the greatest improvement in results can be expected from earlier detection. The plateau reached by present technology should not be regarded nihilistically. The practical problem at hand is the effective coordination and use of the technology which exists pending the development of more effective methods of prevention and control.

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Cold Conization of the Cervix: Its Value as a Diagnostic Procedure

Case Reports

CONIZATION OF THE CERVIX was originally described more than 150 years ago by Lisfranc in Paris, France. During the past 20 years, the clinical entity of an asymptomatic, grossly negative preinvasive intraepithelial disease (carcinoma in situ) of the cervix uteri has been well established. By careful histological examinations of surgical specimens, Scott and Reagan[1] demonstrated that 90% of the carcinoma in situ lesions had their major spread and extent within the cervical canal, the area not usually reached by cervical forcep biopsies. This anatomical factor and the technical inadequacies of forcep biopsies (small specimen, lack of epithelium or underlying stroma, etc.) accounted for the significant diagnostic failure rates (4.3% to 26.0%) of cervical biopsies (Table 1).

Except for a few dissenters,[2] the value of cold knife conization as a more precise procedure has been widely accepted.[3-8] It is most useful in locating the site of abnormal exfoliate cells in the absence of visible lesions and in precluding the possibility of a more severe lesion being missed by punch biopsy of the cervix.

The present retrospective study was undertaken to evaluate the advantages and disadvantages of the cold conization as a diagnostic procedure in our hospital. Our results will be presented in two parts. This paper presents a comparison of accuracy rates of cervical smears, multiple biopsy as against cold conization in making a correct diagnosis of the degree of carcinomatous involvement. Since histological examination of the removed uterus offers another means of checking the correctness of diagnosis made by conization, these results are included where indicated. A subsequent paper will present the disadvantages of this procedure. These include the postoperative complications of cold conization, the morbidities after hysterectomy in the treatment of carcinoma in situ that may be associated with conization and the delay and inconvenience resulting from this procedure in the cases of invasive cancer.

CLINICAL MATERIAL

The records of Ellis Fischel State Cancer Hospital from 1940 to 1967 were reviewed and 219

TABLE 1

FALSE NEGATIVE RATE OF DIAGNOSIS OF CARCINOMA IN SITU OF THE CERVIX BY FORCEP BIOPSY VERSUS COLD CONIZATION

Reference	*Biopsy False Negative (%)*[*]		*Cone False Negative (%)*[†]	
Scott & Reagan (1956)[1]	(26/100)	26.0		
Maisel *et al* (1963)[3]	(12/155)	7.7	(1/149)	0.7
Doran & Shier (1964)[4]	(4/ 46)	8.9		
Silbar & Woodruff (1966)[5]	(8/185)	4.3		
Villasanta & Durkan (1966)[6]	(31/194)	15.1		
Present series (1968)	(18/184)	9.8	(3/ 88)[‡]	3.4

[*] Percent rate of false negative rate of biopsy = No. of cases diagnosed by biopsy as less serious than Ca in situ/total No. of biopsy with conization procedure in the series reported.

[†] Percent rate of false negative rate of conization = No. of cases diagnosed by conization as less serious than Ca in situ/total No. of cases who had hysterectomy after conization in the series reported.

[‡] Three misdiagnosed cases all had inadequate cone specimens (Case histories cited in the text).

TABLE 2

AGE, RACE AND FINAL DIAGNOSIS DISTRIBUTION 219 PATIENTS WHO HAD COLD CONIZATION

Age	Dysplasia Or Less ("Benign")	Carcinoma In Situ	Invasive Carcinoma	Endometrial Carcinoma
21-30	18 (4)*	13		
31-40	16 (3)	25 (2)	2	
41-50	29	22 (2)	6	1
51-60	26 (1)	14 (1)	3 (1)	1
61-70	8	14	3	3
71-80	11 (2)	2		
81-90		1	1	
Total	108	91	15	5

* Number of Negro patients in each group is listed in parenthesis.

TABLE 3

THE DISTRIBUTION OF GRAVIDITY AND PARITY IN 219 PATIENTS

	% With This Gravidity	% With This Parity
0	3.80	4.22
1	9.28	11.39
2	13.08	14.77
3	16.03	16.03
4	15.61	17.30
5	10.97	9.71
6	8.86	6.75
7	6.33	7.17
8	7.17	7.59
9 or more	8.86	5.06

patients were found to have had cold conization of the cervix. Eight patients had a second conization procedure. The average age of the patients was 46.2 years. The youngest patient was 21 years of age and the oldest was 86. No conization procedure was performed on a pregnant patient. The age and race distributions in each disease category are listed in Table 2. Sixteen patients in this group were Negro women (7.3%). This is slightly higher than the overall racial ratio in our hospital (6.3%). Table 3 shows that the majority of patients in this series were parous. Only nine patients (3.8%) were nulligravidas.

The three most common gynecological complaints presented by patients on admission were postmenopausal bleeding, vaginal discharge and menstrual irregularity. It is interesting to note that 74 patients had no gynecological complaint at all and 89 patients had abnormal Papanicolaou smears while they were being examined for complaints elsewhere in the body.

Results

Among the 219 patients who had cold conization procedures, eight patients had a second conization procedure, 165 patients had cervical smears, 184 patients had cervical forcep biopsies prior to the cold conization and 88 patients had the uteri surgically removed subsequently. One hundred and eleven patients among these 219 patients were finally found to have positive tissue diagnosis of carcinomatous changes. These include 91 patients of carcinoma in situ of the cervix, 15 of invasive carcinoma of the cervix and five of endometrial carcinoma.

A. Cervical Smears

In 165 patients who had cervical smears prior to biopsy and conization, the most severe degree of abnormal cytology diagnosed included 53 with positive smears and 53 with suspicious smears. (Our pathologist graded the smears into four classes: normal, atypical, suspicious and positive.)

The number of patients who finally were found to have carcinoma in situ, carcinoma of the cervix and endometrial carcinoma are listed in Table 4. Careful follow-up and repeated examinations have been maintained on all the patients who had suspicious or positive Papanicolaou smears but whose tissue specimens have shown lesions less severe than carcinoma in situ. It definitely is possible that in a certain number of these patients carcinomatous change will appear in the future. Our experience to date, however, showed that positive smears have an accurate positive rate in excess of 73.6% (39/53) and suspicious smears 45.3% (24/53).

In order to look at the false negative rate of

TABLE 4

TISSUE DIAGNOSIS OF 53 PATIENTS WITH "POSITIVE" SMEARS (A) AND 53 PATIENTS WITH "SUSPICIOUS" SMEARS (B)

	(A) 53 Patients With "Positive" Smears	(B) 53 Patients With "Suspicious" Smears
Benign*	14	29
Ca in situ	30	22
Ca cx	5	2
Endometrial ca	4	

* Benign" means all lesions less serious than carcinoma in situ of the cervix.

TABLE 5

READINGS OF PAPANICOLAOU SMEARS OF 91 PATIENTS WITH CARCINOMA IN SITU (A), 16 PATIENTS WITH CARCINOMA OF THE CERVIX (B) AND FIVE PATIENTS WITH ENDOMETRIAL CANCER (C)

	(A) 91 Patients With Ca in Situ	*(B) 15 Patients With Ca Cx*	*(C) 5 Patients With Endometrial Ca*
No. without smear	26	6	0
Negative	4	1	1
Atypical	8	0	0
Suspicious	23	2	0
Positive	30	6	4

Papanicolaou smears, the 91 carcinomatous in situ and 15 carcinoma patients were reviewed. If a patient had multiple smears, only the most severe degree of abnormality was recorded (Table 5, A & B). In our small series, the false negative rate (readings of smear less than suspicious when there was carcinoma in situ or more present) in cases of carcinoma in situ was 18.5% (12/65) and in cases of cancer of the cervix, 11.1% (1/9).

B. Cervical Punch Biopsy

In Table 6, the results of multiple punch biopsy, cervical conization (eight patients had a repeated conization for various reasons) and hysterectomy in the diagnosis of (A) 91 carcinoma in situ are compared. Fifteen patients did not have biopsy prior to the conization procedure. Seventy-five patients had both procedures, and 44 patients had carcinoma in situ present both in biopsy and cone specimens. In 18 cases (average biopsy 1.5 per patient, range one to five, ten patients had diagnosis of dysplasia), the lesions were diagnosed by conization specimens only. Eleven patients had carcinoma in situ present on biopsy specimens but absent on conization specimens. The management of these 11 patients deserves special mention. Five patients had no therapy and had no further abnormality on follow-up studies. Five patients underwent operation and no residual carcinoma in situ was found in the hysterectomy specimens. One patient was treated with transvaginal roentgenotherapy.

The two patients who had carcinoma in situ diagnosed only by hysterectomy specimens will be discussed later. In one patient, the first conization specimen consisted of multiple pieces all less than one centimeter in size. Due to the persistence of suspicious cervical smears, a repeat conization procedure was done six months later. This showed carcinoma in situ and the patient was treated with intracavitary radio-

TABLE 6

DIAGNOSTIC PROCEDURES AND RESULTS OF 111 PATIENTS WHO HAD CARCINOMATOUS CHANGES

No. of Patients	*Result of Biopsy*	*Result of Cone*	*Other Tests*
(A) 91 patients who had carcinoma in situ of the cervix:			
15 (1)†	(No biopsy)	Ca in situ	
18 (2)	Benign*	Ca in situ	
44 (2)	Ca in situ	Ca in situ	
11	Ca in situ	Benign	
2 (1)	Benign	Benign	Hysterectomy—Ca in Situ (Case # 1, Case # 2)
1	Benign	Benign	Re-cone—Ca in situ
(B) 15 patients who had invasive carcinoma of the cervix:			
2	(No biopsy)	Ca	
3	Benign	Ca	
7	Ca in situ	Ca	
3	Ca	Ca	
(C) 5 patients who had endometrial cancer:			
2	(No biopsy)	Benign	Endometrial curetage—endometrial ca
1	Benign	Benign	(Same)
1	Ca	Ca	(Same)
1	Benign	Ca in situ	(Same)

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* "Benign" means all lesions less serious than carcinoma in situ.

† Numbers in parentheses denote the patients whose diagnoses were Ca in situ with microinvasion.

therapy (general condition contraindicate resective surgery).

Table 6 shows that 15 patients (B) who had invasive carcinoma of the cervix also had conization procedures. All except one had positive diagnosis made by the cone specimens. Thirteen patients had punch biopsies prior to the conization: seven had diagnosis of carcinoma in situ (total, 13 biopsies; range one to three per patient), and three had less serious lesions present on the biopsy specimens. Two of these 15 patients were treated with Wertheim hysterectomy (only one surgical specimen contained residual carcinoma). Thirteen patients received radiotherapy.

Table 6 listed the five patients with endometrial carcinoma (C) who also had cervical conizations. All cases had positive diagnosis made from endometrial curettage. In this condition, it is obvious that cervical conization did not offer much diagnostic help. After the conization procedures all five patients had preoperative radiotherapy. Four patients had subsequent abdominal hysterectomy. In three, the surgical specimens showed radiation effects and residual carcinoma. One patient had diffuse abdominal carcinomatosis on exploration.

C. The Pathology of Hysterectomy Specimens

The previous two sections have pointed out that the cold conization is a better diagnostic procedure than Papanicolaou smears and multiple forcep biopsies. However, the diagnostic pitfalls of conization can be revealed only by careful long term follow-up studies (including repeat conization) and examination of hysterectomy specimens. Due to obvious reasons, only a small number of patients would undergo hysterectomy when the cone specimens revealed lesions less serious than carcinoma in situ.

In the present series, 16 of the 110 patients who had benign cervical diseases diagnosed by biopsy and conization had hysterectomy for various indications. Two hysterectomy specimens showed carcinoma in situ. The clinical histories are summarized below to show that inadequate specimens obtained may have accounted for the misdiagnosis.

Case # 1. A 38-year-old Caucasian woman presented with the gynecological complaint of prolonged menstruation. Cervical smears were read as suspicious. Four quadrant cervical biopsies were carried out twice and both showed only chronic cervicitis. A cold conization was carried out in July, 1960 and a 2x1x1 cm specimen was obtained. The pathologist reported "cervicitis" and commented that the specimen appeared to be only one lip of the cervix. After conization, the suspicious smears persisted. In August, 1961 (13 months after conization), abdominal hysterectomy was carried out. The specimen showed extensive replacement of surface epithelium in the endocervical zone by typical carcinoma in situ cells. One section showed definite stroma invasion. The patient has been well on follow-up studies.

Case # 2. A 43-year-old Caucasion woman complained of lower abdominal and back pain. A routine cervical smear showed suspicious cells. Multiple cervical biopsies were read as slight atypical basilar hyperplasia. The suspicious cervical smears continued and a cold conization was done in July, 1960. Three pieces of tissue were submitted (size unknown). The diagnosis was mild atypical basilar cell hyperplasia. In April, 1961 a second conization was carried out and another three pieces of tissue submitted. The diagnosis was squamous metaplasia. Due to persistent complaints and suspicious smears, an abdominal hysterectomy was done in May, 1962 (13 months after the second conization) and the specimen showed definite neoplastic changes in one section. The patient has been well on follow-up studies.

Among the 91 patients with diagnosed carcinoma in situ, 16 received no further treatment. Sixty-four patients (including the two described above) had abdominal hysterectomy with or without one or two oophorectomies. Six patients had Wertheim hysterectomy and one patient had trachelectomy (she had had supracervical hysterectomy previously). The hysterectomy specimens showed residual carcinoma in situ in 33 cases. Four patients were treated by radiotherapy.

One particular patient had carcinoma in situ

Present data at Ellis Fischel State Cancer Hospital confirms the superiority of cold conization as a diagnostic procedure. The authors compare the accuracy rate of multiple biopsy, cervical smears with that of cold conization in making a correct diagnosis of the degree of carcinomatous involvement. Dr. Lee is a Surgeon at EFSCH and the Cancer Research Center and Instructor in Surgery at the University of Missouri School of Medicine. Dr. Spratt is Chief Surgeon at EFSCH, Director of the Cancer Research Center and Professor of Surgery at the University of Missouri School of Medicine. This investigation was supported in part by USPHS Grant CA-08023.

diagnosed by both biopsy and conization specimens. In the hysterectomy specimen taken more than six and one half years later, however, there was invasive carcinoma present. This case brought up the well known fact that carcinoma in situ can develop into invasive cancer after a certain time interval. The case history is sufficiently interesting to warrant summarization.

Case # 3. A 53-year-old Caucasian woman was found to have cervical erosion during work-up for a basal cell carcinoma of the nose. Forcep biopsies of the cervix in August, 1947 and March, 1948 were reported as cervicitis. The condition persisted and finally carcinoma in situ was diagnosed by biopsy in August, 1952. A conization confirmed the diagnosis. The pathologist was not sure whether or not the superior excision line was free of tumor. A decision was made not to give further treatment but only to follow the patient. In January, 1959, some fibrosis was felt on examination and biopsy again revealed carcinoma in situ. In March, 1959, an abdominal hysterectomy was done and the specimen showed that "there was extensive replacement of the endocervical epithelium with extension onto portiovaginalis and to the line of resection. In addition, one section showed invasion of myometrium." The patient was followed closely and suspicious cells reappeared in March, 1962. Multiple and repeated biopsies were taken and finally detected residual disease. A vaginectomy was carried out in February, 1963 and the specimen showed carcinoma in situ, without invasive carcinoma. The patient has been followed regularly and examinations have remained negative.

DISCUSSION

The reliability of suspicious and positive cervical cytology in detecting tissue confirmed that cancer of the cervix is well demonstrated. In our present series, a positive smear has a more than 73.6% chance of coexisting lesions of invasive and preinvasive cancer and a suspicious smear has more than a 45.3% chance. Even in patients with confirmed carcinoma in situ, however, the current cervical smears still can show the less than "suspicious" changes in 18.5% of the cases. In Doran and Shier's series,[5] four patients had class II (atypical) smears among 27 patients with carcinoma in situ (14.8%).

The diagnostic failure rates of punch biopsy in the detection of early cervical cancer were reported as from 4.3% to 26.0% (Table 1). Other authors reported that in 26%[9] and 27%[6] of the cases, the conization revealed more serious abnormal cellular changes than the forcep biopsies. We did not separate the cases with diagnosis of dysplasia from cervicitis (both were grouped under "benign") in the present study. Our false negative rate of cervical biopsy in the presence of carcinoma in situ is 9.8%.

In the cases of invasive carcinoma of the cervix, forcep biopsy may only diagnose as carcinoma in situ in 3.2% to 16.7% of the cases and less than carcinoma in situ in 1.9% to 7.7% of the cases (Table 7). Our data (a total failure rate of forcep biopsy of 5.4%) fell within this range. It is difficult to determine whether all the biopsy specimens taken were adequate or not. In Thomison & Tosh's series,[2] only 59 out of 94 cervical punch biopsies were considered as adequate (one case with adequate biopsy was subsequently found to have invasive lesion). They believed that "conization probably offers no advantage over adequate and multiple (may be six to 14 times) biopsies in ruling out

TABLE 7

FALSE NEGATIVE RATE OF INVASIVE CARCINOMA OF THE CERVIX AS DIAGNOSED BY FORCEP BIOPSY VERSUS COLD CONIZATION

Reference	*% Biopsy Misdiagnosed as* BENIGN*	CA IN SITU	*% of Cone Misdiagnosed as* BENIGN†	CA IN SITU
Thornton *et al* (1954)[3]		(5/ 30) 16.7		
Thomison & Tosh (1962)[2]		(6/ 94) 6.4		
Maisel *et al* (1963)[10]	(3/155) 1.9	(5/155) 3.2	(1/149) 0.7	(3/149) 2.0
Silbar & Woodruff (1966)[6]	(11/185) 5.9			
Villasanta & Durkan (1966)[7]	(15/194) 7.7	(7/194) 3.6		(3/ 75) 4.0
Nebel *et al* (1967)[11]				(7/166) 4.0
Present series (1968)	(3/184) 1.6	(7/184) 3.8		(0/ 88) 0.0

* Per cent false diagnoses rate of biopsy = No. of misdiagnosis in this category/total No. of biopsy with conization reported in the series.

† Per cent false diagnoses rate of conization = No. of misdiagnosis in this category/total No. of conization with subsequent hysterectomy reported in the series.

invasive carcinoma." In our series, cold conization did not miss any invasive cervical cancer.

The definite superiority of conization as a diagnostic procedure in the cases of carcinomatous changes of the cervix is confirmed by our present data. However, in two patients (Case # 1, Case # 2), carcinoma in situ changes noted in hysterectomy specimens were missed by conization done 13 months previously. In 2% to 4%[7, 10, 11] of the patients who had hysterectomy for carcinoma in situ (diagnosed by conization), invasive carcinoma were found. The intervals between conization and hysterectomy were not clearly stated, but it is assumed that carcinoma in situ could not have advanced to invasive cancer as yet. The main lesson to be learned, however, is that a diagnosis of carcinoma in situ by conization does not rule out the possibility of a coexisting invasive carcinoma. It also is important to note that diagnosis made on any inadequate cone specimens should be interpreted with caution.

Summary

1. The records of 219 patients at the Ellis Fischel State Cancer Hospital who had cold conization of the cervix were reviewed.

2. Among this group, eight patients had a second conization, 165 patients had cervical smears and 184 had multiple cervical forcep biopsies prior to the cold conization. Eighty-eight patients had their uteri surgically removed subsequently.

3. One hundred and eleven patients of this series were found to have positive tissue diagnosis of carcinomatous changes. These included 91 cases of carcinoma in situ, 15 invasive carcinoma of the cervix and five endometrial carcinoma.

4. The positive diagnostic accuracy (confirmed by tissue diagnosis of cancer or carcinoma in situ) of a positive cervical smear in this series is more than 73.6% and for a suspicious smear more than 45.3%. Even in confirmed preinvasive cases, 18.5% may still have cervical smears reported as less serious than "suspicious."

5. The diagnostic failure rate of multiple forcep biopsies in the detection of carcinoma in situ of the series is 9.8% and in the cases of invasive carcinoma, 5.4%.

6. The superiority of cold conization as a diagnostic procedure is confirmed by our present data. (The disadvantages of using conization procedure will be reported in a separate paper.) Results and comments from the literature were included in the discussions.

7. It was emphasized that diagnosis made on any inadequate cone specimens should be interpreted with caution. Even when a diagnosis of carcinoma in situ was made on adequate specimens, 2% to 4% of the cases may have coexisting invasive carcinoma present on hysterectomy specimens.

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Researchers at the University of Rochester hope to determine how psychological phenomena occurring very early in life might influence an individual's susceptibility to organic disease later on. The research will be supported by a grant from the National Institute of Mental Health, Health Services and Mental Health Administration. Dr. Robert Ader will head the team of researchers in Rochester, New York who will attempt to discover, in animals, whether genetic factors, prenatal stimuli and early psychological experiences can influence susceptibility to disease and, if so, how. They hope to learn more about the circumstances under which an individual may develop organic disease and, eventually, to predict the specific disease to which an individual may be particularly susceptible.

HUGH S. HARRIS, JR., M.D., ***Columbia***

Colostomy Perforation Due to Catheter Irrigation

A Review

In the United States, it has been the practice of most surgeons to train patients having colostomies to regularly irrigate their colostomies, usually using a small, flexible, rubber catheter for this purpose. This has been done largely for the convenience of the patient to permit him to have predictable bowel movements and to remain relatively assured that unexpected passages of stool from the artificial anus will not occur at inopportune times. Most patients irrigate their colostomies once each day and wear a small pad over the stoma between irrigations.

Colostomy irrigations, however, are not without risk. Although numerous reports have been made of colostomy perforations from trauma sustained at the time of barium enema, endoscopic examination and, occasionally, from self-inflicted trauma sustained while using firm objects for disimpaction of colostomies,[1] most perforations occur while irrigating the colostomy with inadvertent perforation of the bowel wall by the catheter. While some perforations have been reported due to the use of a firm enema tip for irrigation, most perforations have been caused by the recommended soft, flexible, rubber catheter. Several authors have suggested the use of a small nipple through which the irrigation catheter is inserted, with the nipple being used to limit the distance that the catheter is inserted into the stoma (Fig. 1). Our experience with this, however, indicates that this technique is not often accomplished in the manner that was intended. Usually the nipple is placed six to eight inches proximal on the catheter and will not prevent perforation of the bowel, most colostomy perforations occurring within the first two to three inches of the bowel from the stoma.[2]

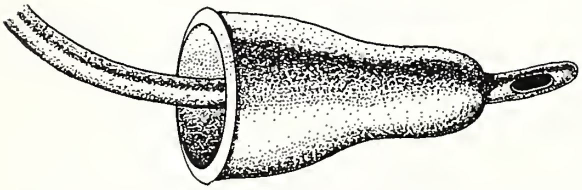

Fig. I Catheter placed through nipple as used for colostomy irrigation.

Colostomy perforations may be categorized into two general groups depending upon whether the perforation occurred intramurally, i.e., within the thickness of the abdominal wall, or intraperitoneally (Table 1). Intramural perforations immediately adjacent to the stoma must be relatively common and, no doubt often are not full thickness. Many of these injuries are insignificant, although they occasionally may result in an abscess adjacent to the colostomy stoma. These abscesses ordinarily respond to incision and drainage, sometimes necessitating temporary proximal colostomy diversion of the fecal stream. A review of this subject by Spiro, *et al*, published in 1966,[1] reported no deaths among a group of 21 case reports of intramural perforations of colostomy stomas that had been collected from the literature. Subsequent reports[3, 4] likewise have not indicated any mortality from this complication.

TABLE 1

CLASSIFICATION OF COLOSTOMY PERFORATIONS

1. **Location:**
    a. **Intraperitoneal**
    b. **Intramural**
2. **Etiology:**
    a. **Barium enema**
    b. **Endoscopic examination**
    c. **Catheter irrigation**
    d. **Miscellaneous**

Intraperitoneal colostomy perforations, however, are associated with a significant mortality. Spiro, *et al*[1] reported 15 deaths among a total of 62 case reports of intraperitoneal perforations from catheter irrigations of the colostomy that they had collected from the literature, including eight cases of their own from Memorial Hospital. Thompson[5] mentions 11 patients who died from colostomy perforations from among 5,000 to 6,000 patients having colostomies. Seargeant[6] reported three colostomy perforations among 165 patients who underwent abdominoperineal resection. Table 2 indicates the experience of others with this complication as reported in the literature.

Although routine daily colostomy irrigation has been widely practiced in this country, the procedure is not without risk as is indicated by this review of the literature on colostomy perforations. The author also reviews the experience at EFSCH with colostomy perforation. Dr. Harris is a Surgeon at Ellis Fischel State Cancer Hospital and Cancer Research Center and Instructor in Surgery, University of Missouri School of Medicine. This investigation was supported in part by USPH Grant CA-08023.

TABLE 2

REVIEW OF INTRAPERITONEAL PERFORATIONS DUE TO IRRIGATION CATHETER REPORTED IN THE LITERATURE

	Total	*Survived*	*Died*
Reviewed by Spiro until 1964	62	47	15
Green (Toledo)	9	7	2
Marino (Brooklyn)	2	1	1

The experience at the Ellis Fischel State Cancer Hospital with colostomy perforation has been reviewed. From 1939, when this institution came into existance, until July 1, 1968, a total of 1,536 colostomies have been performed. These colostomies have been associated chiefly with abdominoperineal resections of the rectum and pelvic exenteration, but also have been done for a variety of other reasons. These patients, with few exceptions, are given colostomy irrigation equipment while in the hospital and are taught by the nursing staff the purpose and technique of colostomy irrigation prior to their release from the hospital. Standard equipment at this hospital includes a #18 soft, French catheter and a nipple as previously described to theoretically prevent insertion of the catheter too far and to prevent reflux of the irrigating solution around the catheter. The patient is instructed to hang the enema can approximately 12 inches above the colostomy opening so as to not obtain excessive hydrostatic pressure. The patients are warned not to force the catheter within the lumen of the bowel if any obstruction is felt.

During this 29-year period, only four intraperitoneal colostomy perforations have occurred due to catheter irrigation. Table 3 indicates the pertinent clinical characteristics of these four patients. Three of the four patients did not survive this complication, the survivor being a 69-year-old man who underwent laparotomy within four hours after the perforation. Two patients, aged 81 and 83, underwent laparotomy ten and 14 hours following perforation at which time diffuse peritonitis was described and both patients died in the early postoperative period. A fourth patient, who had a palliative colostomy, died two weeks following surgery of an unrecognized colostomy perforation with an intra-abdominal abscess. Two of the four patients underwent resection of the distal perforated colon with formation of a new colostomy. One of these patients was the survivor. The remaining patient had closure of the perforation and proximal diverting colostomy performed ten hours following the perforation. This patient did not survive. A fifth patient, reported elsewhere,[7] sustained perforation of his colostomy during barium enema examination at an outside hospital. This patient had a localized intra-abdominal ab-

TABLE 3

COLOSTOMY PERFORATIONS DUE TO IRRIGATION TREATED AT EFSCH (1939-68)

Age	*Delay*	*Findings*	*Treatment*	*Result*
69	4 hrs.	Peritonitis	Resection and new colostomy	Satisfactory
83	14 hrs.	Peritonitis	Resection and new colostomy	Death—6 hrs.
81	10 hrs.	Peritonitis	Closure and proximal colostomy	Death—48 hrs.
71	? several days	Abscess	None (diagnosed at post-mortem)	Death

scess and survived resection, drainage and the formation of a new colostomy.

These cases indicate the potentially lethal aspect of colostomy perforation in the elderly patient. The improved survival after treatment of this complication, as reported by others, appears to be related to earlier treatment of this complication occurring in younger patients. Those reported by Grillo and Nardi[2] included six patients less than 70 years of age from a group of 12 patients with intraperitoneal irrigating catheter perforation. A woman of 90 did not survive a perforation sustained while in the hospital and a man of 50 died after surgery for perforation and ileal injury occurring more than 24 hours after the injury. All of the surviving cases underwent surgery for the complication on the same day of the injury with the exception of one patient who had developed an introabdominal abscess eight days after perforation.

Three of the four patients in the Ellis Fischel group had associated pericolostomy hernias. Other observers[1] have pointed out the significant role that these hernias play in the etiology of colostomy perforation. The colon contained in these hernias may hinder passage of the catheter and increase the risk of perforation. We advise the repair of all pericolostomy hernias if they are associated with any difficulty in colostomy irrigation. If surgery is refused by the patient or if the patient is a poor operative risk, we recommend that he cease irrigating his colostomy and, instead, wear a colostomy bag over the stoma.

For the patient with mental retardation and for the extremely elderly, we occasionally do not teach the technique of colostomy irrigations and, instead, encourage the wearing of a colostomy bag. However, it should be pointed out that in none of our cases of colostomy perforations did mental retardation or senility seem to be a significant factor.

We agree with Grillo and Nardi that the most effective treatment for colostomy irrigation is immediate laparotomy with resection of the terminal portion of the colon containing the perforation and the formation of a new colostomy along with drainage if an abscess is present.

Although colostomy perforation is frequently a lethal complication of colostomy care, we feel that its low incidence does not warrant cessation of the routine practice of daily colostomy irrigations except in those patients with symptomatic pericolostomy hernias who do not desire surgical repair or who are not suitable candidates for this surgical procedure.

SUMMARY

Routine daily colostomy irrigation has been widely practiced in this country. The procedure, however, is not without risk as is indicated by a review of the literature on colostomy perforations. Since 1939, a total of 1,536 colostomies have been performed at the Ellis Fischel State Cancer Hospital where colostomy irrigation is routinely taught to the patient and practiced regularly by most of them at home. Among these patients, four intraperitoneal colostomy perforations have occurred due to the irrigation with only one patient surviving this complication. Adequate treatment consists of early dignosis and treatment with resection of the terminal portion of the colon containing the perforation and formation of a new colostomy. Pericolostomy hernias often are associated with difficulties in colostomy irrigations and probably play a role in colostomy perforations. These hernias should be repaired if the patient's condition permits it or the patient should be advised not to irrigate his colostomy.

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President's Message

On this page in October and November, I discussed the necessity for physicians to take an active part in the elections, which, I am confident, you all did. Whether or not all results were to your personal satisfaction only you, as an individual, can know.

Now comes the important part of the situation—the continuing effort we must make to be sure the voice of our profession will be heard at the local and state levels. This is our responsibility as members of MSMA. I am sure that we will continue to have good representation at the national level through the excellent Washington Bureau set up by the AMA. I am confident of this, even though they represent a definite minority group—the physicians in this country.

David N. Kerr, M.D.

There are very definite health issues at the state legislature level that will require our interest and attention. Our representatives in Jefferson City will help explain our views concerning the type of legislation in the health field that we feel will be best for the people of Missouri. It is our hope that each of you will stand ready to contact your local state representative or state senator and present our position to him or her in a logical manner, so that each will have the facts as we see them and be able to make intelligent decisions regarding health legislation.

Also, it is of primary importance to keep in mind that programs such as Regional Medical Programs for Heart, Cancer and Stroke and Comprehensive Health Planning will go forward. It is the duty of each of us in the profession to become involved to the best of our abilities and to see to it that these programs are well planned, that the proposals made are realistic and needed, that the programs do not degenerate into socialistic-type give aways and perpetuate unnecessary jobs and that our profession will not be accused of blocking progress.

In closing, here is a special word for all county medical society officers. Please hold open the dates, January 11-12, for our meeting in Jefferson City and be there to help reexamine our role in Missouri medicine. I know that it will be worthwhile for each of you.

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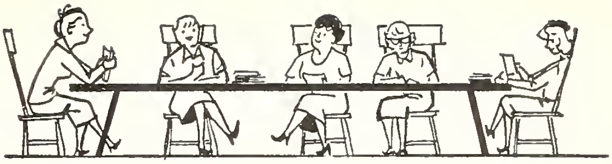

As I write to you, the temperature is 80 degrees and hardly the kind of weather to cause one to think of Christmas. However, by the time you read my message, you, too, will be thinking about Christmas and what it means to you.

Have you ever stopped to think about what it would be like to live through a year without Christmas? We are so accustomed to our celebration that it has become a part of our pattern for living.

Mrs. E. F. Butler, President

We can find the meaning of Christmas, but we have to slow down and look. We must plan and eliminate; we must have a strong will to put first things first and not be afraid to be different.

What does Christmas mean to you? Many bills and silly, time-consuming extravagance? I hope not.

To some people, Christmas is wholly religious, and gifts and merriment are wrong. To some, Christmas is secular and valued only for the pleasures it brings.

What is Christmas? Surely, there is no one answer because Christmas has many faces for many people.

Christmas is God's own creation and therein lies its glory—the same undying glory that has endured through all centuries. The spirit of Christmas is eternal.

We celebrate Christmas, the birth of our Savior, the Prince of Peace. Despite this, there are many areas of the world in which conflict and problems exist.

He brought us hope and faith that these conditions will not always continue. He came to teach us and to inspire us to build for peace and justice. He has taught us that justice and brotherhood will prevail. Then, let each of us rededicate ourselves to the Master's ideals of Peace, Brotherhood and Good Will by resolving to give ourselves to others in love, joy and devotion.

Dr. Butler and I extend Seasons' Greetings to each of you.

EDITORIALS

WHY DON'T MORE DOCTORS ATTEND THEIR MEDICAL SOCIETY MEETINGS?

This perplexing question posed by our editor, Dr. Herbert Warres, referred to our own medical society, but could, with equal ease, be applied to just about any other medical society in our country. No simplistic answers are available, and if I were to offer any, I would be in error. In spite of my youth and relative inexperience, Dr. Warres has kindly asked me to suggest a few tentative, impressionistic reasons why this phenomenon seems to be affecting our colleagues. Perhaps, for the sake of argument, two major, admittedly vague hypotheses might be considered:

1. Competition—It might be reasoned that hospital staff meetings compete for the physician's time and also serve the same purpose of engendering communications, camaraderie, et cetera. Other matters beckon the physician's attention, including his family, often neglected as it is because of his increased work schedule. We could go on and on offering other, and gradually less convincing, excuses.

2. Nonparticipation—Are we as Americans, in general, and physicians, in particular, becoming more passive? Do we wish to still have a voice in the matters that affect our daily lives and our local environment? Have we contributed to the apathy that now exists in our white, middle age society? Have we been affected by the sins of the status quo to the point where we dare not speak out in public assembly? At no other meeting can we, the rank and file, assert ourselves and define our identity as a group. Hospital staff meetings will never substitute for this. But is it justified to place the purple mantle of shame on the individual physician? Should we not reexamine and reevaluate the goals and functions of our Society? Have we become too formal in the structure of our meetings to the point where free expression is stifled? If this is the case, then it is the Society's duty to change itself. This is particularly pertinent when one considers that the attendance rate has dropped gradually over the years in spite of the increase in membership.

The American physician has seen his stature diminish over the years as society has viewed him against the background of a looming federal government. More recently, the hospitals, important as they have been for maintaining quality of patient care, have cast a shadow over the patient-physician relationship. How else can we prevent the wasting away of our professional identities if we do not attend our medical meetings more frequently?

GEORGE S. PARLATO, M.D.
Greene County Medical Society Bulletin

TOMORROW?

Recently we read an article based on the theory that some day human thinking leading to verbal expression would no longer be necessary—the machine—*a computer would do all of our thinking and express our ideas*. Taking 25 basic neo-20th century governmental "words"* and putting our question in conventional (you could understand it) form, we ran it through our machine and here is what we got.

"Total management capability based on optional logistical concepts may produce a balanced yet mobile policy that would find a response in the time-phase to the third generation. However, unless synchronized in traditional varieties of functional programming the projection could parallel the present systematized organizational structure yet lack enough flexibility to be compatible with the then integrated policy of solving the totally related contingency by computerized mathematics."

And to think this is what we got in answer to the simple question, *"What do you think about the future, Kid!*

---

* The only words not used that were on our list were unstructured, denigrated, contraindicated, implementation and consensus.

St. Louis County Medical Society Bulletin

Continuing Education Coming Events

Dec. 4-6	**Refresher Course** Kansas City Society of Ophthalmology and Otolaryngology Plaza Inn Motel, Kansas City
Jan. 17	**Conference—Medical-Legal Aspects of Disability** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Feb. 5	**Conference—Office Pediatrics** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Feb. 14-15	**Fifth Midwest Conference on the Thyroid** Continuing Education, M.U. School of Medicine Medical Center, Columbia

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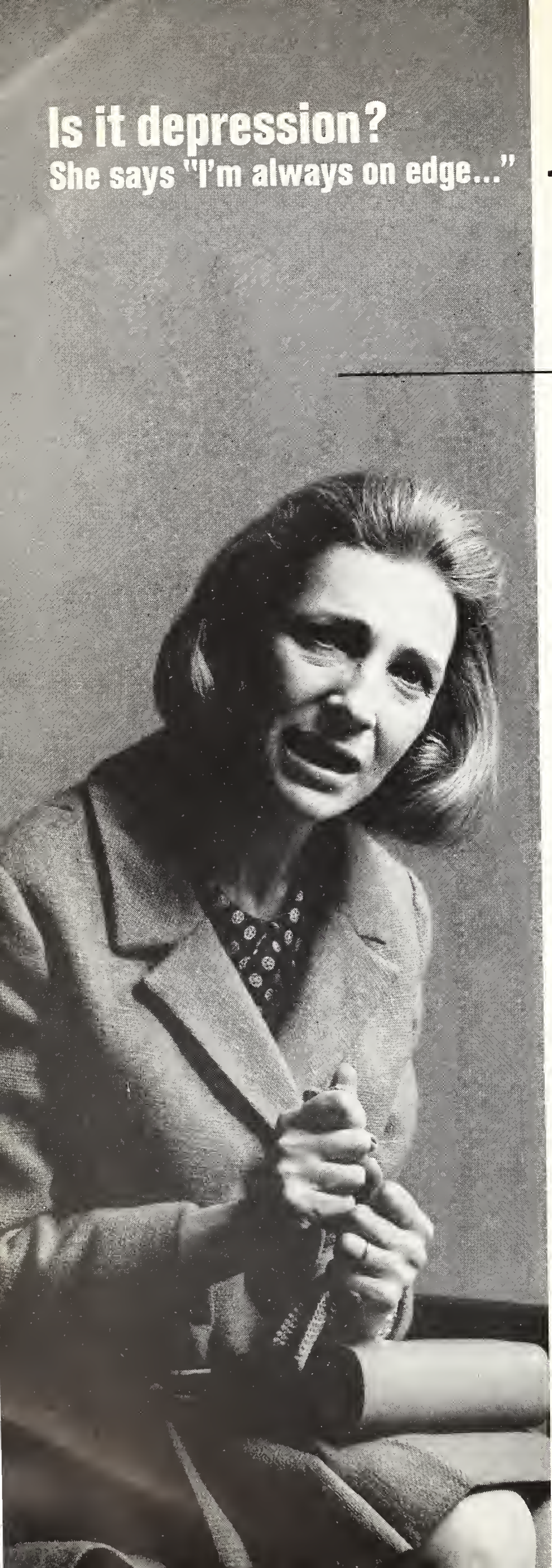

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Side effects include drowsiness; dizziness; nausea; excitemen hypotension; fine tremor; jitteriness; weakness; headach heartburn; anorexia; increased perspiration; incoordinatio allergic-type reactions manifested by skin rash, swelling face and tongue, itching; numbness and tingling of limb including peripheral neuropathy; activation of schizophren which may require phenothiazine tranquilizer therapy; ep leptiform seizures in chronic schizophrenics; temporary co fusion, disturbed concentration or, rarely, transient visu hallucinations on high doses; evidence of anticholinergic a tivity, such as tachycardia, dryness of the mouth, blurring vision, urinary retention, constipation; paralytic ileus; jau dice; agranulocytosis.

Careful observation of all patients is recommended. The an depressant activity may be evident within 3 or 4 days may take as long as 30 days to develop adequately, and la of response sometimes occurs. Response to medication w vary according to severity as well as type of depression pre ent. Elderly patients and adolescents can often be manag on lower dosage levels.

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County Society News

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society met at Maib's Cafe in Lexington on October 8. Twenty members and guests were present.

Following dinner, a short business meeting was held by President F. F. Crozier and the program was then turned over to the guest speakers, Mr. and Mrs. Ray Gill of Richmond. Mr. and Mrs. Gill recently visited Russia with a group of people from the United States who are interested in agriculture. The trip was sponsored by the People-to-People Program. With the aid of projected pictures, Mr. and Mrs. Gill discussed their experiences and findings in Russia during their visit. The program was extremely interesting and enlightening.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The West Central Missouri Medical Society met on October 10 at Glen's Cafe in Butler. The attendance for the usual social hour, dinner and scientific program was 15.

After dinner, the Society was called to order by Dr. William Haynie, Vice-President. The scientific portion of the program consisted of a presentation by Calvin E. Beck, M.D., urologist from Kansas City, who spoke on "Urological Problems of the General Practitioner." His presentation was informative and interesting and well-illustrated with slide and roentgenograms.

A business meeting followed the scientific program. Minutes of the previous meeting were read and approved. There were no reports from Standing Committees. The chairman called for the report of the Nominating Committee. The report of this committee's recommendations for officers for 1969, as submitted by Alfred Eklund, M.D., chairman, was as follows: President, William D. Haynie, Butler; Vice-President, Carter Luter, Butler; Secretary-Treasurer, Roy W. Pearse, Jr., Nevada. Delegates and Alternates to MSMA: Bates County; A. L. Hanson, Butler, Delegate and Carter Luter, Butler, Alternate. Cass County; A. W. Eklund, Pleasant Hill, Delegate and Edward Jones, Harrisonville, Alternate. Cedar County; William Richter, Stockton, Delegate and Robert Magee, El Dorado Springs, Alternate. St. Clair County; Donald Giesler, Osceola, Delegate and Robert Brownsberger, Appleton City, Alternate. Vernon County; James J. Pascoe, Nevada, Delegate and C. Braxton Davis, Nevada, Alternate.

The Chairman called for nominations from the floor. There were no nominations. On motion of Dr. O. B. Barger, seconded by Dr. Robert Magee, the report of the Nominating Committee was accepted and the Secretary was instructed to cast a unanimous ballot for the candidates listed in the report of the nominating committee.

It was announced that the next meeting of the Society will be at Harrisonville on November 14. The meeting was adjourned.

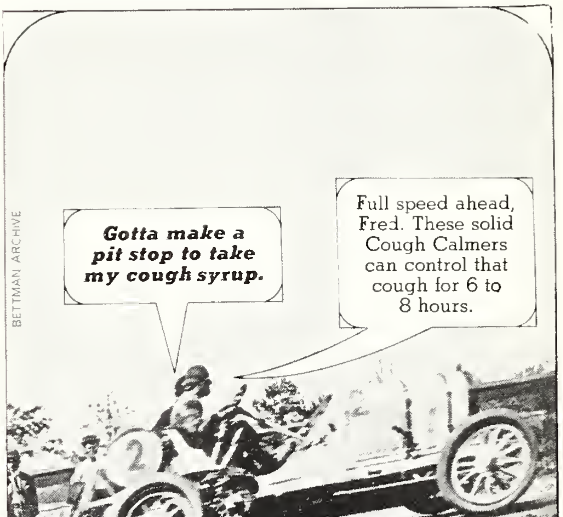
Roy W. Pearse, Jr., M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area Medical Society

The Mineral Area Medical Society met on October 24 at the Hoctor Building in Farming-



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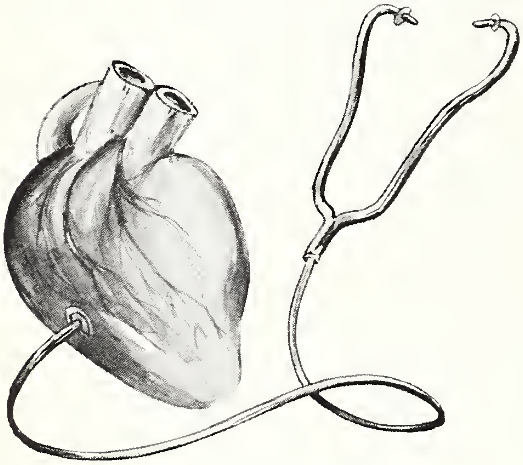

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ton. Kirby Turner, M.D., President, presided.

The scientific program was presented by Charles C. Norland, M.D., an Associate of the Grant Medical Clinic and Instructor in Medicine (Clinical) at the Washington University School of Medicine. His subject was "Malabsorption Syndromes."

The following members were present: Drs. William Ford, Alvan G. Karraker, Charles W. Chastain, Kirby L. Turner, C. H. Appleberry, F. Richard Crouch and Emmett F. Hoctor.

Dr. Chastain announced that the Doctor-Lawyer Annual Dinner will be held on October 31 at Holiday Inn, Jr. Dr. Ford moved that the Society pay for the physicians' dinners, the motion was seconded by Dr. Appleberry and carried.

A packet of material on Comprehensive Disaster Plans from the AMA was sent to George L. Watkins, M.D. It was announced the Dr. C. H. Berry, D.D.S. of Bonne Terre was the Red Cross Chairman of the County Disaster Committee. Dr. Turner stated that he had arranged scientific programs for the meetings in January and March, 1969.

An election of officers followed the scientific meeting. Officers elected for 1969 were Drs. Tom R. Burcham, President; Retus W. Osborn, III, Vice-President and Charles W. Chastain, Secretary.

There being no further business, the meeting was adjourned.

William Ford, M.D., *Secretary*

In Memoriam

Parashak, Paul M., M.D., St. Louis, a graduate of St. Louis University, 1942; member of St. Louis Medical Society; aged 50; died Oct. 6, 1968.

Brewster, Charlotte M., M.D., Kansas City, a graduate of the University of Colorado, 1950; member of Jackson County Medical Society; aged 49; died Oct. 15, 1968.

Osborne, Charles D., M.D., Sedalia, a graduate of the University of Missouri, 1909; member of Pettis County Medical Society; aged 82; died Oct. 22, 1968.

Potter, Thompson E., M.D., St. Joseph, a graduate of Columbia University, 1945; a member of Buchanan County Medical Society; aged 53; died Oct. 26, 1968.

New Members

Arthur E. Baue, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Baue is a native of St. Louis, received his preliminary education at Westminster College and his M.D. degree at Harvard University in 1954. He specializes in thoracic and cardiovascular surgery.

Charles R. Blackwell, M.D., 300 4th Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Blackwell is a native of Roseville, Ohio, received his preliminary education at Tennessee A&I State University and his M.D. degree at Meharry Medical College in 1965. He specializes in anesthesiology.

Ferdinand Del Pizzo, M.D., 1301 Boonslick, St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Del Pizzo is a native of Laredo, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1962. He specializes in obstetrics and gynecology.

Joseph W. Eades, M.D., 4910 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Eades is a native of St. Louis, received his preliminary education at Amherst College and his M.D. degree at Washington University in 1960. He specializes in plastic surgery.

James F. Edwards, M.D., 1420 Grattan, St. Louis, has become a member of St. Louis Medical Society. Dr. Edwards is a native of Edwardsville, Ala., received his preliminary education at the University of Tennessee and his M.D. degree at the University of Tennessee in 1962. He specializes in child psychiatry.

Michael Gass, M.D., 4960 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Gass is a native of Tilda, M.P. India, received his preliminary education at Elmhurst College and his M.D. degree at Washington University in 1958. He specializes in dermatology.

Joseph Alfred Grindon, M.D., 1605 Grattan, St. Louis, has become a member of St. Louis Medical Society. Dr. Grindon is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1962. He specializes in internal medicine.

Azmi H. Khazin, M.D., 3720 Washington Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Khazin is a native of Nazareth, Israel, received his preliminary education at Washington University and his M.D. degree at Washington University in 1961. He specializes in surgery.

Harvey S. Kimble, M.D., 4620 Nichols Pkwy., Kansas City, has become a member of Jackson County Medical Society. Dr. Kimble is a native of Kansas City, received his preliminary education at Kansas State University and his M.D. degree at the University of Tennessee in 1964. He specializes in anesthesiology.

J. Hubert Landry, M.D., 16 Hampton Village Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Landry is a native of Lorette, Manitoba, Canada, received his preliminary education at St. Boniface College and his M.D. degree at Laval School of Medicine. He specializes in radiology.

Martin S. Loriga, M.D., 5400 Arsenal, St. Louis, has become a member of St. Louis Medical Society. Dr. Loriga is a native of San Luis, Pinar del Rio, Cuba, received his preliminary education at the Institute of Secondary Instruction and his M.D. degree at Havana University Medical School in 1950. He is in general practice.

Gaston S. Magrinat, M.D., 915 N. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Magrinat is a native of Havana, Cuba, received his preliminary education at Havana Institute No. 1 and his M.D. degree at Havana University in 1944. He specializes in psychiatry.

Melvin E. Meyer, M.D., 4424 Hampton Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Meyer is a native of Le Sueur, Minn., received his preliminary education at St. Thomas College and his M.D. degree at the University of Minnesota in 1959. He specializes in ophthalmology.

Robert W. Meyers, M.D., 4524 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Meyers is a native of Chicago, Ill., received his preliminary education at Haverford College and his M.D. degree at the University of Pennsylvania in 1949. He specializes in psychiatry.

(Continued on page 1006)

New Members (Cont'd)

Basil A. Molony, M.D., 2850 W. Clay, St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Molony is a native of Kilkenny, Ireland, received his preliminary education at Rockwell College, and his M.D. degree at the Royal College of Surgeons in 1957. He specializes in internal medicine.

Matthew Newman, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Newman is a native of New York, N. Y., received his preliminary education at Vanderbilt University and his M.D. degree at Columbia University in 1959. He specializes in ophthalmology.

Ricardo Q. Recano, M.D., 5005 Flamewood Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Recano is a native of the Philippines, received his preliminary education at Arelland Memorial High School and his M.D. degree at the University of Santo Tomas in 1955. He is in general practice.

S. David Rockoff, M.D., 510 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Rockoff is a native of Utica, N. Y., received his preliminary education at Syracuse University and his M.D. degree at Albany Medical College in 1955. He specializes in radiology.

M. Bryant Thompson, M.D., 52 Maryland Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Thompson is a native of Chillicothe, received his preliminary education at Eastern New Mexico University and his M.D. degree at the University of California in 1961. He specializes in obstetrics and gynecology.

William B. Webber, M.D., 6944 Chippewa, St. Louis, has become a member of St. Louis Medical Society. Dr. Webber is a native of Mt. Vernon, N. Y., received his preliminary education at Cornell University and his M.D. degree at Cornell University in 1960. He specializes in plastic surgery.

John Elias Yannakakis, M.D., 100 N. Euclid, St. Louis, has become a member of St. Louis Medical Society. Dr. Yannakakis is a native of Tripolis, Greece, received his preliminary education at Sixth Gymnasium for Boys in Athens and his M.D. degree at the National University of Athens in 1957. He specializes in obstetrics and gynecology.

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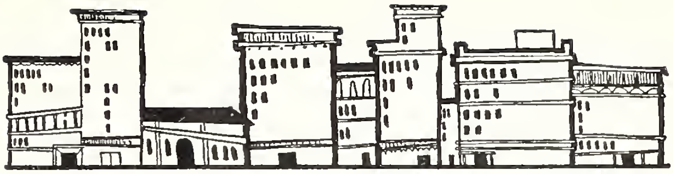

ST. LOUIS UNIVERSITY

The naming of Doisy Hall, the new $3,000,000 research wing addition to the St. Louis University School of Medicine was announced on October 7. The five-story wing was named to honor one of the most distinguished professors ever to hold faculty rank at the University, Dr. Edward A. Doisy, Sr., Nobel Laureate, chairman emeritus of the Edward A. Doisy Department of Biochemistry.

Dr. Charles B. Huggins, also a Nobel Prize winner, and professor of surgery at the University of Chicago, gave the keynote address at the dedication. His remarks were entitled "A Valentine for Dr. and Mrs. Doisy." Dr. Huggins received a Sesquicentennial medallion and citation at the ceremony. Dr. Doisy was honored at a testimonial dinner held at the University Club.

Recipient of the alumni merit award in medicine at the University's Sesquicentennial Founders Week ceremonies was Dr. Peter G. Danis, professor of clinical pediatrics. Dr. Danis was director and co-founder of Cardinal Glennon Memorial Hospital for Children, where he also was the first Chief of Staff. During the past 20 years, Dr. Danis has been a leading light in the advancement of child health in St. Louis and across the state of Missouri.

Dr. V. L. William, vice-chairman, department of surgery, presided over the scientific Founders Week Program held for medical school alumni. Guest speakers, all members of the medical faculty and their topics, were Dr. Robert E. Ryan, associate clinical professor of otolaryngology, "Migraine Headaches"; Dr. R. Reilly Maginn, "Renal Transplantation"; Dr. Patricia Monteleone, assistant professor of pediatrics, "Function of a Human Genetic Unit"; Dr. Robert M. Donati, associate professor of internal medicine, "The Utilization of Radio-Nuclides in Imaging Procedures"; Dr. Donald J. Mehan, senior instructor in surgery, "The Diagnosis, Recognition, and Treatment of Intersexuality"; and Dr. Maurice Green, professor of microbiology, "Viruses and Cancer."

Dr. Ronan O'Rahilly, chairman, department of anatomy, attended the Sixth International Congress of Embryology in Orsay, France and has again been appointed consultant to Dorland's Medical Dictionary.

Dr. Kenneth R. Smith, Jr., associate professor of surgery, presented a paper entitled "Ultrastructure of Subdural Membranes" at the annual meeting of the Congress of Neurological Surgeons.

Dr. Richard K. Danis, senior instructor in surgery, addressed the Surgical Section of the American Academy of Pediatrics in Chicago in October.

A University of Singapore researcher, Dr. Kevin Ng, joined the laboratories of Dr. John C. McGiff, director, Cardiovascular Section, for a one-month period to collaborate in a study on high blood pressure. The American Heart Association is supporting the joint research investigation.

Bill O'Malley

Dr. Thomas F. Frawley, professor and chairman, department of internal medicine, School of Medicine, spoke before the Diabetes Association.

Dr. James B. Lee, director, Section of Experimental Medicine, School of Medicine, delivered a seminar on "Prostaglandins, Evidence of Their Role in Hypertension" at the University of Maryland School of Medicine.

Announcement of three recent appointments at the School of Medicine included Dr. Charles B. Hofling as professor of psychiatry and director of the psychiatric residency approved programs. He comes to the University from the University of Cincinnati College of Medicine. Others are Dr. Robert M. Donati, formerly director of the Radiation Biology Department, Division of Nuclear Medicine at the Walter Reed Army Institute of Research, and Dr. Edwin E. Westura, formerly assistant professor of internal medicine at Georgetown School of Medicine, who has been named associate professor of internal medicine.

WASHINGTON UNIVERSITY

Sir Peter B. Medawar, director of England's National Institute for Medical Research, delivered Washington University's Graham Memorial Lectures on November 4 and 6.

His subject on November 4 was "Recent Advances in Transplantation Immunology." "Genetics and the Future of Man" was his topic on November 6.

Dr. Medawar, who received the 1960 Nobel Prize for medicine and who was knighted in 1965, is a world-known authority on the immune reactions of transplanted tissues.

The lectures honor the late Evarts A. Graham, M.D., Bixby Professor and head of the department of surgery from 1919 until his retirement in 1951. Dr. Graham was renowned for many "firsts," including the removal of a human lung for treatment of cancer and development of apparatus for visualization of the gall bladder by x-ray. He also was among the earliest to produce evidence of the relationship of smoking to lung cancer.

The famed surgeon's widow, Helen Tredway Graham, Ph.D., professor emeritus of pharmacology, who has been on the faculty since 1925, is still active in her research on histamine, an allergy-producing compound.

Fritz A. Lipmann, Ph.D., delivered the twelfth Philip A. Shaffer Lecture at the School of Medicine on November 14.

A professor at Rockefeller University in New York, Dr. Lipmann spoke on "The Technology of Amino Acid Sequencing in Protein Biosynthesis."

A recipient of the Nobel prize for medicine and physiology in 1953, Dr. Lipmann's research interests include the study of how proteins are formed. He describes the linking of amino acids to form proteins as a "miniaturized, automated conveyor belt process."

The lecture honors Philip A. Shaffer, Ph.D., who served 50 years on the Medical School staff prior to his death in 1960. He was appointed professor of biochemistry in 1910, served two terms as dean from 1915 to 1919 and from 1937 to 1946, and was named distinguished service professor emeritus in biological chemistry in 1951.

MISSOURI UNIVERSITY

The University Medical Center has received a $217,614 grant for its first year of operating a "Training Unit for Intensive Care of the Cardiac Patient." The funds are from the Public Health Service and awarded through the Missouri Regional Medical Program.

The purpose is to train medical personnel, primarily nurses, to quickly detect emergency developments in patients and to act appropriately until the doctor arrives. Plans are now being made for the program which is expected to begin soon after January 1.

Dr. William C. Allen, project director, said that most of the applicants for the training program probably will be nurses from Missouri hospitals which do not have physicians around the clock.

Two faculty members, Dr. Gwilym S. Lodwick and Dr. William Donegan, were invited to present papers at the Sixth National Cancer Conference in Denver, which was under the sponsorship of the American Cancer Society and the National Cancer Institute. Dr. Lodwick, chairman of radiology, discussed "Radiologic Evaluation of Skeletal Lesions with Computer Assistance" and Dr. Donegan, surgeon, spoke on "Management of Primary Operable Breast Cancer Today."

Dr. Vernon E. Wilson has been reappointed to the American Medical Association's Committee on Continuing Medical Education.

Dr. Ian Thompson, professor of surgery (urology), presented three papers at the South African Urological Association meeting in Johannesburg, South Africa in September.

Dr. John E. Somers, chief of neurology, has been appointed to the membership committee of the medicinal chemistry division of the American Chemistry Society.

Dr. Jack M. Martt, professor of medicine and director of the cardiopulmonary laboratories, was a Visiting Cardiologist at the University of Iowa recently.

Dr. Kenneth Keown, chairman of anesthesiology, was a guest speaker at the annual fall clinical conference of the Kansas City Southwest Clinical Society in October.

The 100 entering students in the School of Medicine this fall ranked higher scholastically in their undergraduate studies than any previous entering class. Associate Dean Jack Colwill made this statement in presenting a profile of the Class of 1972. They were selected from almost 900 applicants.

Addison A. (Kit) Taylor, third year medical student, has been named a 1968-1969 recipient of a Medical Scientist Fellowship by the Life Insurance Medical Research Fund. A stipend of $11,700 was awarded to be used over the next three years to enable Taylor to obtain both his M.D. degree and Ph.D. degree in physiology.

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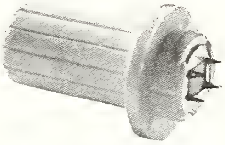

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WASHINGTON

Richard M. Nixon will take over as President pledged to oppose national compulsory health insurance and federal control of physicians' fees. Following are highlights of his position on health care issues:

Federal Role in Medicine

The role of the federal government in medicine should be supportive, never dominating. It should serve as a catalyst and supplement private efforts only as needed.

Medicare

Although the program has been plagued by financial and administrative problems, it offers good potential if wisely administered.

Medicare must provide needed services at the lowest possible cost. The program could be endangered by a continuing escalation of costs.

More effort is needed to reduce dependence on costly hospitalization through better use of extended care facilities and increased use of outpatient care. Also needed is a re-examination of reimbursement formulas and experimentation with financial incentives to assure that the program encourages efficiency at all levels.

Medicaid

I favor the basic philosophy of medicaid—that of helping medical indigents who need aid to meet medical expenses. Unfortunately, the program has fallen short of its expectations. . . .

What is needed is a careful reassessment of medicaid, especially at the local level, with full professional guidance and emphasis on advice from physicians. There also is a need for simplification of literature and application forms.

National Compulsory Health Insurance

I oppose a national compulsory health insurance program because I do not want to lower the quality of medical care in the United States. Also, new health programs should be geared only to persons in need. . . .

I want to see that every individual who needs medical care is able to get it. But I want it to be good medical care. That's why I want to keep the doctors free from government control as much as possible and oppose extension to a national compulsory health insurance program for everyone.

Compulsory Areawide Health Planning

I oppose compulsory areawide health planning. We can't assure communities better health planning just by making such groups compulsory. Areawide planning should be left to state and local determination.

Federal Control of Physicians' Fees

I oppose federal control of physicians' fees. Our system is an open, competitive market assuring an individual the prerogative of setting a value on the services he performs. I would be as opposed to infringing on this right by regulation of physicians' fees as I would be to regulating fees charged by the members of any other profession.

Department of Health

As President, I intend to establish a Commission on Government Reorganization to study thoroughly ways of increasing efficiency in government as well as making it more responsive to the people.

Mental Health

We must develop new methods of treating the mentally ill. . . .

Tax Deductions for the Aged

The 100% income tax deduction for nonreimbursable drug and medical expenses of those over 65 should be restored.

Preventive Medicine

Preventive medicine is, in my judgment, both an opportunity and a major challenge to medicine.

Automated mass screening programs would seem to have great possibilities even though they are generally still in their infancy and, therefore, cannot yet be gauged concerning their effectiveness in preventing chronic illness and reducing deaths. Information about these programs is still inadequate to warrant a broad federal program.

Hill-Burton Act

As demand for hospital facilities increases, additional funds under the Hill-Burton Act for construction and modernization of such facilities will be required to supplement state and local efforts.

To assure the most efficient use and distribution of Hill-Burton funds, a proposal for bloc grants in this area should be considered.

Abortion Laws

Nothing should be done on the federal level. The abortion laws should be considered by each state and should be acted upon by each state, depending upon the opinion in that state. . . . I do not think that a nationally-imposed law would be one which would be accepted in many parts of the country, and only when a state—a majority of people of the state—reach a conclusion that they want that kind of legislation, as they did in Colorado and as they may in the state of New York, should such a law be passed or considered.

President Johnson signed into law a bill providing

(Continued on page 1015)

Council Report

(Continued from page 956)

Council to invite Dr. Troy Morgan, Chairman of the MSMA Committee on Medicine and Religion, to attend at MSMA expense.

On motion of Dr. Benoit, duly seconded, it was agreed that Dr. Morgan be requested to attend this conference.

On motion of Dr. Cope, duly seconded, it was agreed to request Dr. John Matthews to attend the Health Quackery Conference in Chicago.

On motion of Dr. Kerr, duly seconded, it was agreed that the MSMA legal counsel be requested to represent the MSMA at the Legislative Conference on October 4, along with members of the staff, with expenses to be paid by the Association.

Mr. McIntyre also reported he had received a letter from Mr. Paul Adams, Executive Secretary of the Osteopathic Association, regarding the MSMA House of Delegates resolution requesting a joint meeting of liaison committees to discuss the possibility of future training of osteopathic interns and residents in medical hospitals in Missouri. Mr. McIntyre stated that the Osteopathic Association would notify us as soon as possible after their meeting at the end of September in regard to the proposed meeting of liaison committees. If and when these committees meet in joint session, Mr. Adams proposes additional matters of mutual interest also be discussed.

After discussion, on motion of Dr. Miller, it was agreed that the President be authorized to appoint a Liaison Committee for Osteopathic Medical Relations and direct the committee to meet with a similar committee of the Missouri Osteopathic Association to consider matters of mutual interest and report back to the Council. The motion was duly seconded and carried.

Mr. McIntyre reported that resolutions adopted by the 1968 House of Delegates were sent to the Governor over Dr. Kerr's signature and a reply was received from the Governor. These resolutions dealt with increasing the number of qualified physicians in Missouri, establishing a medical school in Kansas City and Comprehensive Health Planning.

Dr. John Matthews reported on several matters which were referred to the Laboratory Committee and, subsequently, were considered by the Legislative Committee. One was the suggestion that the Missouri Law, which has been studied by the MSMA Laboratory Committee in regard to blood alcohol content, be changed from .15% to .10%.

The second item referred to the Laboratory Medicine Committee was the R.P.R. card or circle test for syphilis, which recommended that this still be on an experimental basis in a few laboratories.

The resolution regarding Human Blood as a service and not a sale also was considered by the Laboratory Medicine Committee. The Committee recommends that this resolution be implemented in the next session of the Missouri General Assembly.

The Council also referred to the Legislative Committee for implementation the resolution pertaining to passage of a State Medical Examiner Law. An attempt will be made to implement this resolution in the next Missouri General Assembly. It was thought that a bill similar to the one introduced in the 1967 session is in order. It also was suggested that MSMA act as a supporting organization, but not the sponsor of the bill.

After further discussion, on motion of Dr. Benoit, duly seconded, it was agreed that the matters referred to the Legislative Committee be approved.

Mr. McIntyre reported to the Council that the Association had received a beautiful Conference Table for the new conference room as a gift from Dr. and Mrs. Doyle C. McCraw. He stated that the table is 12 ft. long and 4 ft. wide, with a formica top and that we intend to make good use of it for Committee meetings, etc.

Dr. Fisher expressed sincere thanks and deep appreciation to Dr. and Mrs. McCraw for this most useful gift. On motion of Dr. Kerr, duly seconded, it was agreed that an official letter of thanks be forwarded to Dr. and Mrs. McCraw.

A brochure from the Louisiana State Medical Society regarding Chiropractic was displayed. It was suggested that this brochure be reviewed by Dr. Matthews. After discussion, it was agreed that the Executive Secretary be authorized to obtain copies of this brochure for proper distribution. The motion made by Dr. McCraw was duly seconded and carried.

Dr. Blaine Hibbard, Chairman, presented the report of the MSMA Committee on Utilization Review which met on May 16, 1968, with only two members of the Committee present, along with representatives from the Missouri Division of Health, General American Life Insurance Company, St. Louis Blue Cross and Kansas City Blue Cross. The Committee reviewed a study made by Kansas City Blue Cross and Blue Shield of the records available to date covering patient care rendered in Extended Care Facilities under PL 89-97. This study was prepared by W. A. Slentz, M.D. Dr. Slentz' report indicated it was difficult, in fact, almost impossible, to decide which patient qualified and which did not for coverage in an Extended Care Facility.

The Committee presented two recommendations for Council approval to be submitted to Congress for an amendment to PL 89-97 as follows:

> 1. Because presently PL 89-97 and regulations thereof are medically impossible to implement, we urge amendment so that Extended Care Facilities, wherever possible, be integrated with the base hospital in which the patient is originally admitted.
>
> 2. Similar amendment be made to utilize wherever possible the hospital utilization review committee for patients in Extended Care Facilities.

Extensive discussion followed regarding the above two recommendations and it was the consensus of the Council that these two recommendations be disapproved. Upon motion duly seconded, this part of the report was rejected.

Dr. Hibbard called attention to an item in the report which related to a letter from General American Life Insurance Company regarding intermediary regulations for control of abuses and the recommendation that an article or statement be prepared for presentation to the Editor for publication in MISSOURI MEDICINE which could be used for permanent reference of the MSMA physician membership.

After discussion, it was agreed that Dr. Hibbard prepare such a statement for submission to the Editor.

On motion of Dr. Cope, duly seconded, it was agreed that, with the exception of the portion of the report which was disapproved by vote, that the report of the Utilization Review Committee be accepted, that the Committee be commended for its work and that the Committee continue efforts to find solutions to these difficult problems.

Dr. Miller, Chairman of MSMA Public Service Committee, gave a report on the AMA Communications Institute and County Medical Society Officers Conference held in Chicago on Aug. 20, 21, 1968. He stated that it was a good and well-attended meeting and that representatives from the various county medical societies also attended. He urged everyone who could to attend future meetings of this type. He mentioned briefly a number of successful projects being carried on by county and state medical societies which are designed to promote improved public relations as well as better interprofessional relations.

Dr. Miller also discussed the proposed MSMA Annual Officers Conference, stating that the best time for the Conference seemed to be in January of 1969. He stated that the conference is tentatively set for Jan. 11, 12, 1969 at the Ramada Inn, Jefferson City, beginning at 1 PM on January 11, and concluding with a luncheon on January 12. It was suggested that there be a *no speaker luncheon* on Sunday. He stated that last year's session was primarily an orientation for new and experienced county society officers and that, basically, this idea should be carried through in this year's Conference. He reported that Jim Reed of the AMA Communications Division has agreed to be one of the speakers. It was suggested that we obtain legislators and, perhaps, a newsman to be on the program. Several names have been offered and current plans are to have discussion groups and workshops. Dr. Miller requested Council approval on (1) acceptance of the time and date of the program and (2) a theme similar to that for last year's program with other suggestions as presented.

On motion of Dr. Kerr, duly seconded, Dr. Miller's report was approved.

Mr. Carroll reported that he had attended the Regional Conference on Health Care Costs held in Kansas City on June 25-27. Others in attendance included Drs. Vernon E. Wilson, Columbia; Francis M. Maple, Springfield; and Sidney Rubin, Kansas City; hospital administrators; and health planning insurance officers, both the Blue Plans and private, etc. He stated that he was the only lay member of a medical society present. He said it was the consensus of opinion that no solution could be expected at this time and that he had heard no one complain of high physician fees. He stated that there was very little support for government sponsored programs.

Dr. Wilson presented a request to the Council for a copy of the usual and customary cut-off fee schedules developed under the auspices of the MSMA Medical Economics Contract Committee for the Title XIX program in Missouri to be used in connection with the Missouri State Crippled Children's Service. He stated that the Service has been providing care to children now being covered under other acts. He also stated that the State Legislature has continued to make coverage in both cities and rural areas, but that some care is now paid through Medicaid previously covered under the Crippled Children's Service. He stated that a registry of children who need care is being compiled and they would like to have fees paid for physician charges comparable to those in the Medicaid program.

After further discussion, on motion of Dr. Cope, duly seconded, it was agreed that the usual and customary cut-off fees developed under the auspices of the MSMA Medical Economics Contract Committee by the various specialty groups be supplied to Dr. Wilson for use by the Missouri State Crippled Children's Service. (1 dissenting vote)

Dr. Mayer, Dean of the University of Missouri Medical School, presented some new considerations for Continuing Medical Education Programs at the University of Missouri Medical Center, stating that most previous programs may have had a weakness in that they are too didactic in nature. He said one program might be to invite practicing physicians to come to the medical school and see patients there with attending physicians, as do interns and residents. Under this program, physicians might come in to the Medical Center and spend one full day, perhaps from 10 AM to 4 PM, seeing patients with the doctors in the clinic and hospital. He pointed out, however, that this possibly should include the osteopaths who have been participating in some of the continuing education programs. He requested MSMA's thoughts about such a program for physicians to come in at scheduled sequences to see patients along with house staff in the Medical Center.

After considerable discussion, it was agreed, on motion of Dr. Cope, duly seconded, that the Council approve this program.

Dr. Mayer then brought up the subject of the telephone network system which now has 20 transmission stations and 20 telephone lines to each of different areas of the state with two-way Communication. Material which is pertinent to the slides, etc., are sent out in advance to places where the viewing will take place. Slides will remain in the local area so that there will be opportunity for replay and rebroadcasting at different times. He stated that judging from the information obtained from these 20 stations, they then will be able to determine whether or not this service should be continued and, in time, self-sustaining. He stated there would be programs in nursing and other allied health fields. The preliminary response has been good.

Mr. McIntyre presented the report of the Scientific and Postgraduate Work Committee for Dr. Yore, the Chairman, who was unable to be present, and gave a resume of the program to date. He also suggested, if the Council approved, that the Council meeting prior to the meeting of the House of Delegates be held again on Wednesday evening, as it was last year, in order to provide sufficient time to prepare the Supplementary Report on the Council in time for the House. It was pointed out that the first session of the House of Delegates was originally set for 2:30 PM on Thursday, March 20.

After discussion, it was moved and seconded that the House of Delegates begin at 1:30 PM instead of 2:30, and that Registration begin at 11 AM instead of 12 noon.

Mr. McIntyre gave an up-to-date report on the program, including speakers and titles which have been received up to this time. It also was suggested that no social functions be scheduled for Thursday night, March 20, because of interference with Reference Committee meetings. It was suggested that Specialty Society meetings could be held on Wednesday, prior to the opening of the MSMA session, so as not to interfere with the MSMA session and possibly to increase attendance. Dr. Matthews suggested the Specialty Societies plan duplicate mailings from their own organizations to their own memberships.

Dr. Kerr appointed the following members to the Local Committee on Arrangements for the 1969 Annual Session: Drs. Walter T. Gunn, St. Louis, Chairman;

Robert A. Mayer, Clayton; and James C. Cope, Columbia.

Dr. Washburn presented a report of the AMA Annual Session in June, 1968, and reviewed some of the actions of the House of Delegates. He stated that there were nine active campaign candidates for the Board of Trustees. Dr. Dwight Wilbur took office as President and Dr. Gerald Dorman was elected President-Elect. Dr. Benoit appeared before the Reference Committee which considered health care costs, and his discussion of the Missouri proposal for a study of health costs was mentioned in the Reference Committees report to the House, but no action was taken on the Missouri recommendation because no resolution had been presented or any report from the AMA Board of Trustees on this subject had been given to the House. The Council on Health Manpower was created by the AMA House of Delegates and it had already had a meeting.

Dr. Washburn reported that one directive in regard to osteopaths came from the Board of Trustees and another was a resolution on training of residents. This was referred back to the Board with a report to come to the Fall meeting. It was reported that it seemed the AOA does not want to cooperate with the AMA. The AMA also urged state and local medical societies to adopt the AMA policy on Chiropractic and alert the public on the cult of chiropractic.

It also was reported that a dues increase was not recommended at this time. Dr. Washburn reported that Dr. Neilson was appointed Chairman of Reference Committee D and Dr. Benoit served as a teller. Dr. Washburn also reported that all the wives of the Missouri delegates were most helpful in the MSMA hospitality suite operation and that all active campaign candidates were invited to the Missouri Hospitality Suite for discussions of their candidacies. Dr. Benoit was appointed to the AMA Committtee on Health Financing, which is a committee of the Council on Medical Service.

Mr. Seeds reported that no more definite AMA action regarding the Missouri study on health care costs is contemplated at this time. Dr. Wilson reported the Missouri Regional Medical Program has secured some money for Dr. Buesseler for a definite portion of this study in Missouri (physicians costs) and they will continue to try to finance the complete study from other sources.

On motion of Dr. Gunn, duly seconded, the report of the AMA Delegates was accepted with thanks.

Dr. Kerr called attention to a letter received from the AMA requesting names (with background information) of physicians to be sent to the AMA for possible appointments on various committees and councils of the AMA. He reported that names submitted shortly after the Council meeting could still be considered. Dr. Kerr suggested the names be submitted before the Council adjourned on Sunday morning.

After discussion, on motion of Dr. Gunn, duly seconded, it was agreed that the list of names be presented to the President and Executive Secretary for implementation and that a carbon copy of this list be sent to the AMA Delegates for their information.

Dr. Koon of the Missouri Academy of General Practice requested approval of the Council in regard to an application for an operational grant submitted to MRMP for "Promotion of Early Detection of Cervical Cancer in the Office of the Family Practitioner." He stated an application had been made to MRMP for an operational grant and that they had been advised by the project review committee to seek the approval of the Council of MSMA. He stated the MRMP did accept the application, but that it was turned down by the Advisory Council. He also stated the application would be resubmitted to MRMP if the Council approved it. Dr. Koon explained that three years ago this program was started by the American Academy of General Practice and that 150 members out of the total membership of 600 of the Academy were participating in the program. He stated that, as of now, 30,000 pap smears have been taken in the state, and it is recommended that all female patients have this test as a routine. He reported that of the 30,000 smears taken, 10,000 have been done on women having their first pap smear. Dr. Koon explained it is becoming very difficult to handle this project because of the volume of work involved which is now being handled in his office. He stated the Department of Community Health and Medical Practice could handle this project with the proposed grant in order to hire a secretary and four medical students per year, to inform physicians throughout the state of the program and tell them what to do. He stated that these smears are returned to his office, the data is compiled and reports sent by pathologists are tabulated by the U.S. Public Health Service.

After further discussion, on motion of Dr. Wray, duly seconded, the Council approved the project of "Early Detection of Cervical Cancer in the Office of the Family Practitioner" sponsored by the Missouri Academy of General Practice.

Discussion followed regarding the item which was tabled on Saturday in regard to a letter being sent to Blue Cross protesting the information requested on Form SB-811, which called for extensive information about patients. Dr. Cope read the proposed letter to be sent to Mr. Rexford of the St. Louis Blue Cross. After discussion, on motion of Dr. Cope, duly seconded, it was agreed that the proposed letter be sent to Mr. Rexford, with the deletion of one paragraph.

Mr. McIntyre requested approval of the Council for the expenditure of approximately $1,000 for the purchase of chairs for the Conference Room. He stated funds are available in the budget, but that he wished the Council's approval before spending this amount. On motion of Dr. Cope, duly seconded, Mr. McIntyre was authorized to purchase the chairs for the Conference Room.

Mr. McIntyre reported he had had several requests recently regarding the refunding of dues by the State Association in the event that a member of a county society dies shortly after having paid his dues. Mr. McIntyre stated there is no policy at the moment to guide the state office in this matter. He also stated there is no provision for this in the Constitution and By-Laws and he requested guidance from the Council in order to be able to handle these situations when they are called to his attention.

After discussion, on motion of Dr. Cope, duly seconded, it was agreed that on request of the County Society, the Executive Secretary be authorized to refund State Association dues on the same basis adopted by the respective County Society.

Dr. Fisher opened the meeting for discussion regarding the long range planning agenda, which was considered on Friday evening, and how it might be included on the agenda for the Officers Conference on Jan. 11, 12, 1969. It was suggested that, perhaps, there be six workshop tables to consider the six items on the agenda, i.e., members assigned to Table 1 would discuss Item I, etc. It also was pointed out that if this agenda is included, the time would be too short and would limit the original purpose of the Conference, which is to acquaint new presidents and secretaries of county medical societies with the work of the State Association. This matter was left to the discretion of the Public Service Committee. Special invitations to the Conference will be sent to Presidents, President-Elects and Secretaries of component county medical societies, chairmen of Public Relations and Legislative Committees and to MSMA officers. It was suggested that this program could be publicized through MISSOURI MEDICINE stating the Conference will be open to all members who wish to attend and that they are cordially invited.

The Council again expressed its thanks and appreciation to Dr. and Mrs. McCraw for their hospitality on Saturday evening and for the delightful day on Friday.

The Councilors reported on various items of interest in their areas, including meetings and special events scheduled.

In view of the AMA Interim Session, which is scheduled for the first week in December, it was decided on motion of Dr. Wray, duly seconded, that the next meeting of the Council would be held on Dec. 14, 15, 1968 at the Ramada Inn, Jefferson City.

It also was decided that the Budget Committee will meet on December 13 at 4 PM at the Ramada Inn, Jefferson City.

Dr. Kerr mentioned that at the Council meeting in May, 1968, we had a request from the Missouri Association for Retarded Children for MSMA to cosponsor a Mental Retardation seminar to be held at the University of Missouri in October, which was approved. However, at the time no funding was involved. Dr. Kerr mentioned that he had received a letter again from that Association stating they would like a donation from MSMA to help with this seminar. After discussion, on motion of Dr. Cope, duly seconded, it was recommended that a reply be sent to them expressing our regret that we cannot fund this project.

Dr. Kerr also mentioned that he had received notification from the Michigan State Medical Society and also from Wisconsin State Medical Association in regard to the memorial stamp to Dr. William Beaumont. He stated the Michigan Legislature went along with backing this endeavor of the Michigan Medical Society. He stated that the Commemorative Stamp was for 1972 and wondered if our State Legislature might go along with this idea.

After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that this matter be referred to the Legislative Committee for implementation.

Dr. Whitener reported that a letter had been circularized to the Pharmaceutical Companies requesting a donation for the Missouri State Medical Foundation. He said from 12 to 15 replies had been received and all had refused, stating that they support the AMA-ERF program. He recommended the next step should be to contact the retail drug stores.

Dr. Stufflebam presented the report of the Committee on Study of Cardiac Disease for Dr. Janney, the Chairman, who could not be present. Dr. Stufflebam reported that the Committee had studied two projects, both of which were approved by the Committee, and requested Council approval for these proposed projects which were as follows: (1) The Heart Sound Screening Program, using the Phono-Cardioscan, and (2) Program in Primary Prevention of Rheumatic Fever, using the Fluorescent Antibody Microscope to detect type "a" strep. Dr. Stufflebam explained that the project in heart sound screening of school children will be conducted in the first, fifth and ninth grades. He stated that if a positive screen is obtained, the child will be asked to return for a second screen. If a second is obtained, a letter will be sent to the parents suggesting further study. A letter also will be sent to the child's personal physician. He stated the project will be subject to approval of each of the local medical societies where these tests will be done. He also stated this project is under the auspices of the Missouri Heart Association and was presented to the Missouri Regional Medical Program for funding, contingent upon approval of the Council of MSMA. The program on Primary Prevention of Rheumatic Fever through school screening for group A streptococci is to be a pilot project to be carried out in one school in Butler County. This is to be a joint project of the Missouri Division of Health and the Missouri Heart Association to be funded by these two organizations. Dr. S. B. Beecher, District Health Officer for Popular Bluff, has been asked to gain the approval of the Butler-Wayne-Ripley County Medical Society for this project. Both of the above projects have been approved by the Missouri Heart Association.

After discussion, on motion of Dr. Miller, duly seconded, it was agreed that the report of the Committee on Study of Cardiac Disease be approved and that the two proposed programs be approved provided the approval of the county medical societies in the areas involved is obtained.

Dr. Kelley reported on the Joint Committee meeting of Missouri Medical Service and MSMA regarding the selection of voting members to the Blue Shield Board, which was held on July 14, 1968, at the Chase Hotel in St. Louis. He stated it was the unanimous consensus of the group that Dr. Kerr serve as chairman of the meeting. Dr. Kerr called attention to the MSMA House of Delegates resolution, adopted March 31, 1968, the text of which follows:

"*Resolved*, That the House of Delegates requests the President of MSMA appoint a committee of physicians from the component medical societies of the area srdee from the component medical societies of the area served by St. Louis Blue Shield to work with a committee from St. Louis Blue Shield whereby changes in the by-laws of St. Louis Blue Shield will be effected to allow nomination and election of the physician members of the Voting Board and Board of Trustees of St. Louis Blue Shield from and by the physician of the area served. This should fairly represent the different areas of the St. Louis Blue Shield Plan in Missouri."

Mr. O'Brien explained the make-up of the MMS Voting Board and the current method of its selection. He noted the Board consists of 81 members, 54 of whom are physicians. The remaining 27 are lay representatives of the subscribing public. He noted also that 18 of the physician-members represent the three outstate districts of the plan's service area—Districts 1, 2 and 3. The remaining 36 physician-members of the Voting Board are from District 4, the St. Louis Metropolitan area. Nine of the latter are members of the St. Louis County Medical Society and 27 are members of the St. Louis Medical Society.

Dr. Stuart submitted an alternative proposal to one presented by Dr. Kelley. It was decided, after considerable discussion, to approve the proposal Dr. Kelley suggested. It would take a new approach to the nomination of members of the Voting Board, but would require no change in the by-laws of the St. Louis Blue Shield Plan. The text of Dr. Kelley's proposal is as follows:

> "The Joint Missouri State Medical Association-Missouri Medical Service Committee considering methods of selecting physician members of the St. Louis Blue Shield Voting Board requests that the MMS Board of Trustees, in accordance with Article IV of the By-Laws of MMS, set up a formal mechanism by which the MSMA component medical societies of each of the four Blue Shield districts can collectively make nominations of participating members to fill vacancies that occur in their respective district's representation on the Blue Shield Voting Board, with the provision that such nominations will be submitted for vote of the Voting Board at its annual meeting, and that the procedures set up will not in any way infringe on the privilege of any Voting Board member to make additional nominations at the annual meeting of the Board."

It was reported that the above proposal, after discussion, on motion, was duly seconded and adopted by the Joint Committee of MMS and MSMA. It was reported that the Executive Committee of St. Louis Medical Society accepted this proposal.

After further discussion, on motion of Dr. Gunn, duly seconded, the report of the Joint Committee of MMS-MSMA was approved.

Discussion followed regarding a problem concerning St. Louis Blue Cross and its proposal to extend services to include drugs, nursing home care and several other things, which is a result of a national sponsored program. A rather extensive explanation was given by Dr. Kelley and Mr. O'Brien for informational purposes only. No action was taken on the report.

Washington (Cont'd)

for tougher penalties for illegal traffic in amphetamines and barbiturates. LSD also is covered specifically.

The new law makes illegal possession, manufacture or disposal of the drugs a misdemeanor carrying maximum penalties ranging from imprisonment of one year and a fine of $1,000 to imprisonment of 15 years and a fine of $20,000. Leniency is authorized for first offenders.

Johnson praised the law as a measure that will "strengthen the hands of our police and give our families protection." He said it should "put the drug peddler in jail." But, he added, the active support of all Americans—both adults and young—is needed.

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TWO INTERNISTS—Board eligible or certified, wanted by multi-specialty group in Central Texas associated with 100-bed hospital. $20,000-$24,000 annual salary; early partnership; no investment. Write G. H. Wahle, Jr., M.D., King's Daughters Clinic, Temple, Texas, or call collect, AC 817 778-5501.

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WANTED—General practitioner or internist and an OB-Gyn man for a well-established, four-man group practice in an old, historical town serving a population area of approximately 20,000. We have a fully accredited, 78-bed hospital with laboratory and radiology service. Write to Medical Clinic, Lexington, Mo. 64067.

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WANTED: Associate or partner in general practice in Jefferson City, Mo., 30 miles from Missouri University Medical Center. A practice overwhelming after 2½ years. Net income, $35,000 to $45,000 annually. Building a new medical building with room for one or two associates to be completed September, 1968. If interested, pleace call Jefferson City, Area Code 314, 635-2542 or 635-6580.

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The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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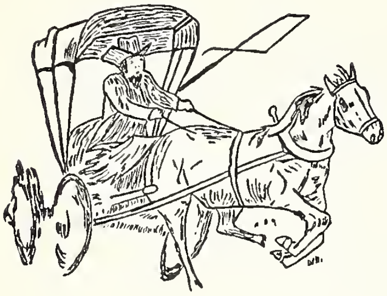

FORTY YEARS AGO

The Sixth Annual Clinical Conference of the Kansas City Southwest Clinical Society closed one of the most successful meetings in its history on October 11. The Fall Clinical Conferences of the Society constitute a real postgraduate course for general practitioners and have become popular with the physicians in the territory surrounding Kansas City. Approximately 500 registered at this session.

A $200,000 gift to the Jewish Hospital in St. Louis for a new clinic and laboratory building was announced at the directors' meeting on October 11 by Dr. Aaron Waldheim, chairman of the board. Dr. and Mrs. Waldheim are said to have given $135,000 to the hospital previously.

Sixty-one members of the St. Louis Doctors' Golf Club assembled on the west course of North Hills Country Club on September 28 with a display of golf finery that shone no less than the display of golfing proficiency. It was their annual meeting and tournament. Dr. Ravold was unanimously elected president for the coming year and Dr. R. B. H. Gradwohl was elected secretary-treasurer.

In computing federal income taxes, physicians may deduct traveling expenses incurred in attending meetings of medical associations, according to a decision of the Board of Tax Appeals handed down in the appeal of Dr. Cecil M. Jack, Decatur, Ill. on October 7.

TWENTY-FIVE YEARS AGO

The sulfonamides apparently have scored again in the prevention and treatment of an infectious disease, meningococcal infection. The United States Public Health Service reports 14,153 cases in 1943, as of September 8, as compared with a five-year median of 1,544. Reports of these investigations are just becoming available and point the way for vigorous steps in control, if the morbidity of meningitis should again rise. In the great epidemic of meningitis in New York in 1904-1905, the mortality was 73%. Flexner and his colleagues developed an antiserum and the mortality was lowered to 30%. Now, with the sulfonamides, the death rates is 2.3% and epidemic spread apparently can be controlled.

Dr. Philip A. Shaffer, St. Louis, dean of the Washington University School of Medicine, was elected vice-president of the Association of American Medical Colleges at a meeting in Cleveland on October 27.—Drs. W. M. Wheeler and Edward H. Schaeffer, Sedalia, were guests of honor at a dinner given by the Pettis County Medical Society on October 18 in observance of their 50th anniversaries in the practice of medicine.

TEN YEARS AGO

Dr. Ralph Perry, President-Elect of the MSMA, was honored for his services as a physician and a citizen to his community by the East Business and Professional Association of Kansas City recently. In 1945, Dr. Perry was treating casualties on the crippled U.S.S. Bismarck Sea when it was sunk near Iwo Jima. He was wounded in an explosion, but managed to stay afloat three hours until he was rescued. For his service at Leyte, the Lingayen Gulf and Iwo Jima, he was awarded three battle stars and the Purple Heart. Dr. Perry is still active in the Navy Reserve Program.

Approximately 400 friends and acquaintances of Dr. W. H. Goodson, Liberty, attended a reception on September 28 in honor of his 50th anniversary of service to Clay County.

A joint meeting of the medical societies in the Bootheel was held in the Cotton Ball Hotel in Kennett on October 9. Some 30 physicians from the area attended. The evening's festivities began with social refreshments consisting of Bootheel Tea (compliments of the local medical society). A dinner and program followed.

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